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PSYCHIATRIC CO-MORBIDITIES IN PATIENTS RECOVERED FROM COVID-19.

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INTRODUCTION

INTRODUCTION

Pandemic is defined as "epidemic occurring worldwide, or over a very wide area, across continents crossing international boundaries and usually affecting a large number of people"[1]

The U.S. Centers for Disease Control and Prevention defined it as:" Pandemic refers to the epidemic which has spread over many countries or continents, usually affecting a massive number of people." [2]

COVID was initially diagnosed at China in December 2019 and was spread across major continents including Asia, Europe, America by mid 2020. The first wave saw panic across the world, there was no awareness about the disease and its treatment. It was proving to be deadly and people could not get the opportunity to grieve on the deaths of their family members or loved ones.

Second wave was more severe, the number of deaths increased substantially. Hospitals were flooded with patients and it was difficult to get beds at hospitals across the country. Symptoms of Anxiety and Post Traumatic Stress were observed. Due to this, government initiated measures like Tele-consultation and counselling because of social distancing and other restrictions imposed by them.

Third wave came out to be less severe. The number of deaths decreased and symptoms were milder. Till then, people had the knowledge about treatment and most of them got vaccinated. It is felt that now, we will observe a pandemic of psychiatric disorders, post COVID.

Millions of people were quarantined at their homes, borders were closed and economies were falling down. Incidence of depression, anxiety and suicidality were reported in many countries, and the effects of lockdown lead to great amount of psychological stress in patients and their relatives. Anxiety as well as depression were common psychiatric manifestations seen.

In pandemic times, people were often afraid of getting infected with the disease leading to anxiety, stress and depression. [3] Stress was said to be a feeling of emotional and physical tension that arises from an event which threatens the body's homeostasis.[4] The fear of impending doom is defined as anxiety, that is how the body responds to stress.[5] Depression is seen as a condition of low mood and disinterest in day to day activities. It was observed that people who were

encountering the pandemic without getting vaccinated were more anxious, depressed and stressed. [6]

Some people were more effected than others to the psychosocial impacts of pandemic. Especially, people who got infected, those who were at more risk for it (aged people, people with decreased immunity, and people obtaining care in congregate settings), and people already having medical, psychiatric, or substance use issues were at higher risk of unfavorable psychosocial outcomes.[7]

Acute and Chronic psychological disturbances had been associated with Respiratory viral diseases in recovered patients.[8]

The rapidly spreading COVID-19 pandemic was seen to be linked with psychiatric complications.[9] Preliminary data proposed that patients suffering from the virus might encounter delirium, depression, anxiety, and sleep disturbances.[10]

Additional to the immunological mechanisms, fear of getting infected, unpredictability of future, stigma, traumatic experiences of severe illness, and social isolation felt by patients during the pandemic were important psychological stressors that might have led to psycho-pathological outcomes.[11]

High speed man-to-man spread of the SARS-CoV-2 virus led to the imposition of region wise lockdowns to reduce the further escalation of the disease. Isolation, social distancing and shut down of colleges, work spaces, and entertainment areas, encouraged people to stay home and minimize the spread of the virus.[12] But these restrictive steps have affected the social as well as mental health of people from across the world. [13]

The pandemic had a damaging effect on the public's mental health that might have lead to psychological crises.[14] The intervention techniques became more effective when individuals were recognized in the early stage of the disorder causing psychological effects.

Health emergencies like COVID-19 pandemic resulted in psychological changes in the frontline workers as well as the citizens, and these psychological changes were aggregated by fear, anxiety, depression and insecurity. [15]

The patients already suffering from psychiatric disorders were not able to contact or visit their doctors and get medications because of the government restrictions which caused a rise in the number of relapses in the subjects who were in remission phase.

Long duty shifts without adequate rest, a heavy workload, a lack of personal protective equipment, and the high rate of infection spread were all factors that had a negative impact on the mental health of healthcare workers. These factors also contributed to severe stress, anxiety and psychological distress. [16]

The medical community was worried about the contagious virus since they were more likely to be exposed to stressful or traumatic situations, which could've had a negative impact on their mental health. [17]

The state of the world economy had gotten worse, with high and rising unemployment rates. Children, teenagers, and their families were particularly negatively impacted by the current scenario. Social connections had been greatly restricted, kindergartens and schools had been closed, and outdoor recreational activities were discontinued. While working from home, parents were expected to help with their children's homeschooling. [18]

Children and teenagers were being isolated physically apart from their friends, teachers, extended family, and social networks for a long period of time. As a result, social isolation and school closings worsened childrens' and adolescents' mental health, who were already more vulnerable to mental health issues than adults, at a time when they were also worried about threats to their health and the employment or financial security of their families.

Jiao et al. (2020) recently conducted a study in China which tested kids and teens for behavioral and emotional distress driven by the COVID-19 pandemic. The most prevalent issues they discovered included anxiety, melancholy, attention, irritation, and the worry that family members would catch the fatal disease. [19]

Persistent psychological impairment with considerable levels of anxiety, depression, and post-traumatic stress disorder were evident in patients who needed hospitalization after COVID-19

one year after discharge. The quality of life was significantly reduced in patients with severe acute respiratory syndrome. [20]

Increase in the prevalence of psychological distress, anxiety, depression, drug misuse disorders, suicide, and suicidal behavior had been linked to economic crisis. The factors that tend to determine post-economic recession, mental health disorders included unemployment, unstable employment, lower socioeconomic position, and pre-existing psychiatric conditions. [21]

Harassment, stereotyping, discrimination, social exclusion, and in some cases physical violence had been brought on by stigma against Health Care Professionals and survivors of the COVID-19 infection. [22]

In addition to emotional disturbance, stigmatized people also felt anxious, sad, and emotionally disturbed. [23]

Four categories were being used to classify the results for young people's mental health: the biological effects of the SARSCoV-2 infection on the CNS, the advent of new mental illnesses and symptoms, suicidality and access to emergency psychiatric services, and the influence of technology and social media. [24]

All this has led to a felt need for study of psychosocial impacts of post COVID period on mental health of people in general and people having pre existing psychiatric illnesses.

AIM AND OBJECTIVES

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AIM- To find out the psychiatric morbidities precipitated by COVID-19.

OBJECTIVES-

1. To find out the prevalence of psychiatric morbidities in COVID-19 recovered patients.
2. To find out the nature and extent of those psychiatric morbidities.
3. To establish the relapses/aggravation of previous psychiatric morbidities due to COVID-19.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Ram Lakhan, et al, in their study "Prevalence of Depression, Anxiety, and Stress during COVID-19 Pandemic" found in 2020 that Worldwide, the COVID-19 pandemic has had a significant negative impact on people's life. The mental health of the populace had been impacted by uncertainty and quarantine. For better worldwide management and prevention of these issues, estimates of mental health issues were urgently required. To estimate the prevalence of mental health issues during the first seven months of the COVID-19 pandemic, a quick scoping review was carried out. The online databases of PubMed, Medline, and Google Scholar were searched from December 2019 to June 2020 for data-based academic journals published in the English language. In this review, the papers that satisfied the inclusion requirements were examined and debated. There were 16 studies included in all, out of which 11 studies were from China, 2 studies from India, and 1 study each from Spain, Italy, and Iran. In the whole study population of 113,285 people, the prevalence of all types of depression was 20%, anxiety was 35%, and stress was 53%. During the COVID-19 pandemic, it was discovered that the prevalence rate of all types of depression, anxiety, stress, sleep issues, and psychological discomfort was higher in the general population. 25

Usama Rehman, et al, in their study "Depression, Anxiety and Stress Among Indians in Times of Covid‑19 Lockdown" found on 23 June 2020 that around the world, Covid-19 has caused enormous distress. In addition to the obvious physical signs of infection, it has seriously harmed public mental health. Like other nations, India enacted a nationwide shutdown to stop and restrict the spread of the virus. The goal of the current study was to examine the psychological discomfort that residents of India experienced during the lockdown. A questionnaire with inquiries about the signs of depression, anxiety, stress, and impact on families was given to 473 participants. The findings showed that the lockdown is most detrimental to those who lack the necessary supplies, and family wealth was found to be inversely connected with stress, anxiety, and despair. Students and healthcare workers were reported to feel stress, anxiety, and sadness more than other professions. Mental health professionals' stress, anxiety, and depression levels were determined to be within normal limits despite the current circumstances, demonstrating their capacity to maintain normalcy under difficult circumstances. To aid with psychological

concerns associated to Covid-19, officials and other organizations had enlisted the support of mental health practitioners.[26]

Nader Salari1, et al, in their study "Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic" found on July 6, 2020 that Public mental health has been significantly impacted by the COVID-19 pandemic. Therefore, it is of the utmost importance to monitor and oversee the mental health of the populace during emergencies like a pandemic. In this study, the prevalence of stress, anxiety and depression in the overall population at the time of COVID-19 pandemic was analysed in reference to previous research efforts and conclusions. The prevalence of stress was found to be 29.6% in 5 studies having a total sample size of 9074, the prevalence of anxiety was found to be 31.9% in 17 studies with a sample size of 63,439, and the prevalence of depression was found to be 33.7% in 14 studies with a sample size of 44,531. They finally concluded that in addition to posing a risk to one's physical health, COVID-19 can lead to a range of psychiatric illnesses. People's mental health may be impacted by the new coronavirus's spread in many places. In order to prevent the COVID-19 pandemic from having a negative impact on people's mental health, it is crucial to create psychological interventions which can enhance the mental health of susceptible groups.[27]

Syed Mustafa Ali Shah, et al, in their study "Prevalence, Psychological Responses and Associated Correlates of Depression, Anxiety and Stress in a Global Population, During the Coronavirus Disease (COVID‑19) Pandemic" found on 27 Oct 2020 that Mental health issues have been associated with uncertainty and loneliness. The COVID-19 pandemic's uncertainty had the ability to lead to mental health issues like worry, anxiety, and sadness. Their study examined how common sadness, anxiety, and stress were among the world's population during COVID-19 pandemic, as well as their psychological reactions and related associations. The COVID-19 quarantine/lockdown resulted in the collection of 678 completed forms. Their strategy used a non-probability sampling technique. Participants' anxiety, stress, and depression levels were all above average, at 50.9%, 57.4%, and 58.6%, respectively. During this COVID-19 pandemic, stress, anxiety, and depression were extremely common worldwide, and a variety of factors affected the prevalence of these mental health issues. Intriguing connections and symptoms of stress, anxiety and depression were revealed by their factorial

study. Stress, anxiety, and sadness were common among persons in non-marital partnerships, women, and those between the ages of 18 and 24. Separated people felt anxious and stressed. People who were married felt anxious. Depression affected those who were divorced or single. People who were unemployed also went through stress and depression. Students reported feeling depressed and anxious. Increased stress, worry and sadness were linked to prolonged periods of quarantine. Stress, anxiety, and depression levels were lower when family members were present. [28]

Shweta Singha, et al, in their study "Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations" found in 2020 November that Global terror and apprehension have been sparked by the COVID-19 pandemic and lockdown. Children and adolescents may experience short-term as well as long-term psychological and mental health effects as a result of this phenomena. Numerous sensitivity factors, such as developmental stage, educational attainment, already existing mental health condition, socioeconomic disadvantage, or confinement due to infection or fear of infection, influence the kind and scope of an impact on minors. To meet the psychosocial and mental health needs of the most vulnerable children and teenagers during and after the pandemic, it is urgently necessary to organise longitudinal and developmental research and to put into practise an evidence-based, detailed action plan. Access to mental health services for children and adolescents must be made easier in order to provide them with the tools they need to cope with the current situation. It is thought important for these cutting-edge child and adolescent mental health programmes to have digital and direct collaboration connections of psychiatrists, psychologists, paediatricians, and community volunteers.[29]

Salima Meherali, et al, in their study "Mental Health of Children and Adolescents Amidst COVID-19 and Past Pandemics: A Rapid Systematic Review" found in 2021 that The COVID-19 epidemic and related public health initiatives had interfered with people's lives all across the world. It was clear that the pandemic had directly and indirectly affected psychological well being and social repercussions had a negative impact on young children's and teenagers' mental health. The purpose and goals of this study were to determine how the pandemic affected children's and adolescents' mental health and assessing the efficacy of various interventions used during earlier and the present pandemic to support mental health in this age group.

18 studies out of the 5828 that they were able to retrieve met the requirements for inclusion. They evaluated them thematically and classified the main conclusions under the headings of how the pandemic affected children's and teenagers' mental health. According to these studies, pandemics caused children and adolescents to experience stress, concern, helplessness & social and dangerous behavioural disorders like drug abuse, suicidality, relationship issues, academic problems, and work absenteeism. Children and adolescents who received interventions including art-based programmes, support services, mental health and psychosocial facilities experienced a reduction in mental health problems. It is quite concerning how COVID-19 may affect children's and teens' mental health. The most frequent manifestations include anxiety, depression, sleep and eating disorders, as well as impaired social relations. According to reports, this pandemic might have had longer-lasting negative effects on children's and adolescents' mental health than it did on adults.[30]

Ani Nalbandian, et al, in their study "Post-acute COVID-19 syndrome" found on 22 March 2021 that the culprit causing the coronavirus disease 2019 (COVID-19) pandemic, that has caused global healthcare crises and taxed health resources, is coronavirus 2 (SARS-CoV-2). It is crucial to develop an awareness of the healthcare difficulties that surround COVID-19 patients as their population increases and they begin to recover. Today, COVID-19 is understood to be a multi-organ illness with a wide range of symptoms. There are more and more reports of long-lasting and persistent sequelae following acute COVID-19, similar to post-acute viral symptoms observed in survivors of other highly lethal coronavirus outbreaks.

The identification of post-acute COVID-19, a syndrome marked by persistent symptoms and/or prolonged or long-term problems beyond 4 weeks from the onset of symptoms, has been made possible by patient advocacy groups, many of whose members identify themselves as long haulers. Here, they offered an in-depth analysis of the most recent research on post-acute COVID-19, its pathogenesis, and its organ-specific aftereffects. Finally, they examined pertinent issues for the multidisciplinary treatment of COVID-19 survivors and offers a paradigm for identifying those who are most at risk for developing post-acute COVID-19 and for coordinating their care through COVID-19-specific clinics.[31]

E.K. Abdulla, et al, in their study "Depression and anxiety associated with COVID- 19 pandemic among healthcare professionals in India- A systematic review and meta-analysis" in July 2021 wanted to critically examine and assemble the available data on the impact of COVID-19 on the mental health of doctors in India as India battled the second wave of COVID-19, placing them under psychological pressure. It also seeked the attention of policymakers. Five studies with a total sample size of 5796 participants found that 41.90% of individuals had depression, and ten studies with a total sample size of 3059 participants revealed that 42.87% of participants had anxiety. In 12 research involving 4209 people, stress was observed to be common (58.04%). 3 studies involving 416 participants found 31.94 as the prevalence rate for sleeping problems.[32]

Amit Srivastava, et al, in their study "Psychological trauma and depression in recovered COVID-19 patients: A telecommunication based observational study" found on 16 Aug 2021 that Patients who had encountered coronavirus disease (COVID-19) were suffering negative effects on their mental health, and it was unclear how recovering COVID-19 patients were affected psychologically. The purpose of their study was to evaluate depression and Post Traumatic Stress Disorder (PTSD) in COVID-19 patients after they had recovered from the illness.

Through the use of telemedicine, the study included recovered COVID-19 patients from the patient database made available by the healthcare system. 503 recovered patients with an average age of 41.90 years were enrolled in the study.

Depression and PTSD symptoms were reported to be prevalent in 56.9% and 29.0% of people, respectively. According to their study, recovered COVID-19 patients had substantial PTSD symptoms and suffered from a significant level of depression. [33]

Gaur, et al, in their study "Psychiatric comorbidity in clinically stable COVID-19 patients " in 2022 identified psychiatric co-morbidities among COVID-19 patients who were in clinical stability. They conducted a cross-sectional study among 72 COVID-19-infected individuals who were in clinical stability. The DSM-5 Self-Rated Level 1 CCSM—Adult scale was used to measure psychiatric comorbidity.

Psychiatric comorbidity was present in 76.4% of the population. 44.44% of patients had a diagnosis of depression, which was followed by diagnoses of anxiety (34.72%) , somatic symptoms (26.39%) and sleep disturbances (23.61%). Approximately 45.83% of the patients thought that the COVID-19 infection could be fatal, and 23.62% of the patients reported experiencing stigma and discrimination as a result of their COVID-19 infection. Physical

symptoms were discovered to be a significant predictor for psychiatric co-morbidities using binary logistic regression.[34]

Brooks SK, et al, in their study "The psychological impact of quarantine and how to reduce it: rapid review of the evidence." 2020 said that numerous symptoms of mental trauma, including emotional trauma, depression, stress, mood changes, irritability, sleeping problems, attention deficit hyperactivity disorder, post-traumatic stress disorder, and anger, have been reported in studies that have looked at psychological disorders during the COVID-19 pandemic.[35]

Lixue Huang, et al, in their study "1-year outcomes in hospital survivors with COVID-19: a longitudinal cohort study" in 2020 found that the exact scope of COVID-19's long-term health effects on patients who were released from the hospital was largely unknown. Their study's objective was to thoroughly compare the effects among COVID-19 hospital survivors between 6 to 12 months after the onset of symptoms. Between January 7 and May 29, 2020, COVID-19 survivors who were released from Jin Yin-tan Hospital (Wuhan, China) underwent an ambi-directional cohort study. Survivors underwent physical examinations, a 6-minute walking test, laboratory testing, and interviews with questionnaires on symptomatology and health-related quality of life (HRQoL) at 6-month and 12-month follow-up visits. Both visits were completed by 1276 COVID-19 survivors. The patients' median age was 59.0 years, and 681 (53%) of them were men. After the onset of symptoms, the median follow-up period was 349 days for 12-month visit and 185 days for the 6-month visit. At least one residual symptom was present in 49% fewer patients at 12 months than it was at 6 months. At the 12-month visit, more patients also reported having anxiety or depression (26% at the 12-month visit vs 23% at the 6-month visit). Between six months and twelve months, there was no discernible difference on the 6MWD. 88% of patients who already had jobs prior to the COVID-19 had gone back to them after a year. Women were more likely than men to experience tiredness or muscle weakness, anxiety or depression, or diffusion impairment. At 12 months, matched COVID-19 survivors experienced higher mobility issues, pain or discomfort, anxiety, or depressive symptoms as compared to controls.[36]

Jiawen Deng, et al, in their study "The prevalence of depression, anxiety, and sleep disturbances in COVID-19 patients: a meta-analysis" found in Feb 2020 that exposed individuals are at risk of acquiring psychological and mental health conditions like sadness, anxiety, and sleep

difficulties, according to data from earlier coronavirus outbreaks. They carried out a systematic review and random-effects meta-analysis to determine the prevalence of depression, anxiety, and sleep disorders in this sample in order to build a complete picture of the mental health state of COVID-19 patients. They discovered that the combined prevalence of depression, anxiety, and sleeping problems was 34%, 47%, and 45% respectively. The prevalence estimates for depression and anxiety varied depending on the screening method, but we did not identify any statistically significant differences between the genders.

To further understand the psychological effects of COVID-19 infections, more observational studies evaluating the mental health of COVID-19 OPD patients and patients from nations other than China were required.[37]

Le Shi, et al, in their study "Long-Term Impact of COVID-19 on Mental Health among the General Public: A Nationwide Longitudinal Study in China" in February 2020 said that There may be long-term effects on mental health from COVID-19. Their goal was to look into how the general Chinese population's mental health had changed over time, from the COVID-19's initial peak to its aftermath. By u sing Patient Health Questionnaire-9, GAD-7, and Insomnia Severity Index, a large-sample national cohort of 10,492 persons were evaluated for depression, anxiety, and insomnia during the peak of COVID-19 and its immediate aftermath. During COVID-19, they investigated factors connected to long-term mental health issues using generalised estimating formulas and linear mixed models. The severity of the mental health problems persisted over the course of the five months.

Living in areas that were severely impacted by the early COVID-19 peak or by the COVID-19 resurgence, as well as living in quarantine, increased workload after returning to work, exposure risk to COVID-19 at work and living in those areas were all linked to long-term depression, anxiety, and insomnia. Self-defence practises including wearing face masks were adhered to, and this was linked to a decreased long-term risk of developing mental illnesses. According to the data, China had a significant and protracted mental health burden from the time COVID-19 peaked until it subsided.[38]

Jonathan P Rogers, et al, in their study "Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic " said in May 2020 that before the COVID-19 pandemic, coronaviruses were responsible for two notable outbreaks: the Middle East respiratory

syndrome (MERS), which first appeared in 2012, and the severe acute respiratory syndrome (SARS), which appeared in 2002. They, in this study aimed to evaluate the neuropsychiatric and mental symptoms associated with SARS, MERS, and COVID-19. The systematic search turned up 1963 studies and 87 preprints out of which 65 participant studies and seven preprints satisfied the requirements for inclusion. The included studies had 3559 coronavirus cases, ranging from 1-997, and the participants' average ages ranged from 12 years to 68 years (single case report). Studies came from the UK, the USA, Canada, Saudi Arabia, France, Hong Kong, Japan, Singapore, and South Korea. The post-illness studies' follow-up periods ranged from 60 days to 12 years.

According to the systematic review, among 129 patients admitted to the hospital with SARS or MERS as during acute illness, confusion was the most common symptom (36), followed by depression (42), anxiety (46), impaired memory (44), and insomnia (54). 13 (0.7%) of 1744 patients with SARS in the acute stage had steroid-induced mania and psychosis. Post illness, Depressed mood was found in (35 of 332) patients, insomnia in (34 of 280), anxiety in (21 of 171), irritability in (28 of 218), memory impairment in (44 [233) and fatigue was reported in (61 of 316) cases.[39]

Nina Vindegaard, et al, in their study "COVID-19 pandemic and mental health consequences: Systematic review of the current evidence" in May 2020 found that Few research had focused on the potential direct impact of SARS-CoV-2 and its neurotropic potential on mental health during the COVID-19 pandemic, compared to the general medical issues that have drawn the greatest attention. Furthermore, there was growing concern over the pandemic's unintended consequences for mental health in general, especially in light of the SARS-CoV-1 epidemic's association with psychiatric issues in 2002–2003. There were 43 studies listed in all. A high degree of post-traumatic stress disorder symptoms and a noticeable increase in depressive symptoms were discovered in the two investigations looking at COVID-19 patients. Patients who had pre-existing psychological problems claimed that their symptoms had gotten worse. Studies looking at healthcare professionals discovered greater anxiety, psychological distress, and poor sleep quality. Studies of the general population found decreased psychological health and greater anxiety and depression scores compared to before COVID-19, but no change was seen when comparing those symptoms in the early stages of the pandemic to 4 weeks later. The chance of experiencing psychiatric problems and/or low mental well-being was higher in females, in people with poor self-related health, and in people with relatives who had the COVID-19.[40]

Chen, F., et al, in their study “Depression and anxiety among adolescents during COVID-19: A cross-sectional study” found in August 2020 that during COVID-19, that female adolescents had a greater risk of anxiety and depression. In their sample, the older adolescents were more depressed than the younger ones. According to their research, adolescents who were alone on working days were more vulnerable to develop anxiety and depression during COVID-19. [41]

Mario Gennaro Mazza, et al, in their study. "Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors.” In October 2020 said that Psychopathology could be brought on by immune system disruption brought on by an infection, and psychiatric aftereffects have been noted following prior coronavirus outbreaks. There may be psychological repercussions from the Severe Acute Respiratory Syndrome Coronavirus (COVID-19) pandemic. In addition to looking at the impact of diagnostic and inflammatory indicators, they looked into the psychopathological effects of COVID-19 in survivors. At one month's follow-up following hospital treatment, we examined 402 persons who had survived COVID-19 (265 men, mean age 58) for signs of mental illness. They looked into the symptomatology of post-traumatic stress disorder, depression, anxiety, insomnia and obsessive-compulsive disorder using a clinical interview and a battery of self-report questionnaires. They gathered baseline inflammatory markers, clinical data, sociodemographic data, and oxygen saturation levels for further measurements. Numerous patients—28% for Post-Traumatic Stress Disorder, 31% for depression, 42% for anxiety, 20% for OCD symptoms, and 40% for insomnia—rated themselves as having psychopathology. Overall, 56% had at least one clinical characteristic with a pathological score. Females experienced greater degrees of anxiety and despair despite having significantly lower baseline inflammatory marker levels. The majority of psychopathological measures were scored higher in patients with a positive prior psychiatric diagnosis, despite similar baseline inflammation. Systemic immune-inflammation index (SII) baseline values are positively correlated with follow-up depression and anxiety scores because they indicate the immune reaction and systemic inflammation depending on peripheral lymphocytes, neutrophils, and platelet counts.[42]

Esm´e Jansen van Vuren et al, in their study, "The neuropsychiatric manifestations of COVID-19: Interactions with psychiatric illness and pharmacological treatment", in 2021 March found the current corona virus disease outbreak (COVID-19) has had a significant worldwide impact. There is a clear connection between corona virus infections and a variety of central and peripheral nervous system symptoms, which raises serious concerns about the association between the (SARS-CoV-2) illness and psychiatric illnesses. Unchecked neuro-inflammation has been found to underlie a variety of neuro-psychiatric diseases as well as the disease's severe respiratory consequences. Immune-inflammatory states are a feature of a number of neurological and mental diseases, and therapies for these conditions have unique anti-inflammatory qualities and effects. As psychological diseases and SARS-CoV-2 both frequently involve inflammation, treating one ailment may have an impact on how the other progresses or change how it responds to medication. In this study, they clarified how psychiatric disorders may be impacted by viral infections and how pharmaceutical therapies for these disorders may affect the course of treatment for SARS-CoV-2. In light of the underlying dysfunctional neuro-inflammatory processes and possible drug interactions, they examined whether any therapy-induced benefits and potential side effects may ultimately impact the overall treatment strategy. Finally, they recommend complementary therapies for SARS-CoV-2-related neuropsychiatric disorders.[43]

Thor Mertz Schou, et al, in their study "Psychiatric and neuropsychiatric sequelae of COVID-19 - A systematic review" in July 2021 found that that the brain and nervous system are involved in the multi-organ pathology of coronavirus disease 2019 (COVID-19). Acute mental symptoms have also been documented in patients with COVID-19 in several studies. A growing number of research point to the possibility that psychological abnormalities may endure even after the original infection has been treated. In the present systematic review, they give a summary of the evidence that is currently available and detail possible risk factors and the molecular processes that underlie such mental consequences. They used PubMed and Embase and conducted an organised search for psychiatric after effects in COVID-19 patients. Included primary studies all gave quantitative measures of psychological health and data on the follow-up duration. The investigation was done on June 4th, 2021. 1725 distinct studies were found.[44]

Adam Hampshire, et al, in their study “Cognitive deficits in people who have recovered from COVID-19” found in September 2021 that with reports of "Long COVID" symptoms extending into chronic phase and studies demonstrating neurological issues in severely affected people, there is rising worry regarding the potential cognitive effects of COVID-19. Regarding the type and wider occurrence of cognitive issues following infection or across the complete spectrum of disease severity, there is, however, insufficient information. Significant cognitive deficits were present among those who were recovered from COVID-19, including all those who were no longer experiencing symptoms.
For both hospitalised patients and non-hospitalised cases with evidence of COVID-19 infection, the impairments had a sizeable impact size.[45]

Olivier Renaud-Charest, et al, in their study “Onset and frequency of depression in post-COVID-19 syndrome: A systematic review” in September 2021found that The National Institute for Health and Care Excellence has named post-COVID-19 syndrome as the collection of symptoms that, when present together, remain beyond recovery from COVID-19 in an increasing percentage of people. Although the early stages of COVID-19 included well-defined depressed symptoms, it wa uncertain how often depression returned after the acute phase had subsided. In the study described here, they aimed to quantify the prevalence of depressed symptoms and clinically severe depression lasting for more than 12 weeks after SARS-CoV-2 infection. Through story synthesis, the frequency and causes of depression in the post-COVID-19 syndrome were quantified and qualitatively evaluated. A revised version of NOS- Newcastle-Ottawa Scale was used to evaluate the methodological quality and bias risk in prospective cohort studies. The incidence of depressive symptoms +12 weeks after SARS-CoV-2 infection varied from 11 to 28% in the 8 trials they evaluated. Between 3 and 12% of patients experienced significant clinical depression and/or major depressive symptoms. There was no correlation between the incidence of depressive symptoms and the intensity of acute COVID-19. The component studies, however, varied greatly in terms of patient location, age, and assessment period as well as method of measurement. The majority of research lacked a group of people who weren't exposed. A uniform definition of post-COVID-19 syndrome should be attempted in future studies, and unexposed control groups should also be included.[46]

MATERIAL AND METHODS

MATERIAL AND METHODS

Study Design: This will be a cross sectional cohort study.

Study group: Patients discharged from the Hospital suffering from COVID-19.

Place of study: Tertiary Hospital, Ghaziabad.

Duration of study: 1 year

Sample Size: 236

n= Z2 1-0/2 P(1-P)/ 12

- **Where n is the sample size, Z is the statistic corresponding to level of confidence, P is the expected prevalence and dis precision (corresponding to effect size).**
- **Z2 = 1.96 at 5% Level of significance**
- **P = Prevalence (29.6%)**
- **] = Relative error (20% of P)**
- **The Prevalence of PSYCHIATRIC MORBIDITIES across studies is**
- **29.6 %**
- **Therefore Sample size (n) = 236**

Inclusion criteria:

1. **Age 18-60**
2. **Patients admitted only for COVID-19 infection.**
3. **Those who have given informed consent.**

Exclusion criteria

1. **Any acute physical condition.**
2. **Any chronic medical conditions like Diabetes, Chronic Kidney Disease and Hypertension.**

METHODOLOGY

METHODOLOGY

We got Ethical clearance from the Institute's Ethical committee. Permission was obtained from the Institution.
Various tools were used for assessing the psychiatric morbidities in patients admitted to the hospital during COVID-19.

The various scales used will be :
1. Consent form with sampling.
2. The Zung Self Rating Depression Scale.
3. The Zung Self Rating Anxiety Scale.
4. Perceived Stress Scale (PSS)
5. The Brief Psychiatric Rating Scale (BPRS)

1. CONSENT FORM

A consent form that explained all the procedures and nature of the study to the patient was used. Everything was explained to the patients in their language.

2.The Zung Self Rating Depression Scale :

The Zung Self-Rating Depression Scale is a 20-item self-report questionnaire that is widely used as a screening tool, covering affective, psychological and somatic symptoms associated with depression. The questionnaire takes about 10 minutes to complete, and items are framed in terms of positive and negative statements
Each item is scored on a Likert scale ranging from 1 to 4.

A total score is derived by summing the individual item scores, and ranges from 20 to 80.

- 25-49 Normal Range
- 50-59 Mildly Depressed
- 60-69 Moderately Depressed
- 70 and above Severely Depressed

The scores provide indicative ranges for depression severity that can be useful for clinical and research purposes.

3.The Zung Self Rating Anxiety Scale

The Zung Self-Rating Anxiety Scale is a 20-item self-report questionnaire that is widely used as a screening tool for anxiety. The questionnaire takes about 10 minutes to complete, and items are framed in terms of positive and negative statements

Each item is scored on a Likert scale ranging from 1 to 4.

A total score is derived by summing the individual item scores, and ranges from 20 to 80.

Below 45 Within normal range

45 – 59 Minimal to moderate anxiety

60 – 74 Marked to severe anxiety

75 and over severe anxiety

Score of 75 and above indicates severe anxiety.

The scores provide indicative ranges for anxiety severity that can be useful for clinical and research purposes.

4. The Perceived Stress Scale (PSS)

It is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful.

•You can determine your PSS score by following these directions:

• First, reverse your scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.

• Now add up your scores for each item to get a total.

• Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

► Scores ranging from 0-13 would be considered low stress.

► Scores ranging from 14-26 would be considered moderate stress.

► Scores ranging from 27-40 would be considered high perceived stress.

5. The Brief Psychitric Rating Scale (BPRS)

•The BPRS is a rating scale which a clinician or researcher may use to measure psychiatric symptoms such as depression, anxiety, hallucinations, psychosis and unusual behaviour. The scale is one of the oldest, most widely used scales to measure psychotic symptoms.

• The rater enters a number for each symptom construct that ranges from 1 (not present) to 7 (extremely severe).

RESULTS

ANALYSIS RESULT

Table 1.1: Descriptive statistics of Age of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent	Mean ± SD
Age	≤ 30 years	59	25	45.39 15.96
	>30 years	177	75	

Table 1.1 shows that average age of patients was 45.39 years; and the majority of 75% patients had belonged to more than equal to 30 years age group and 25% patients belonged to less than 30 years age group in this study.

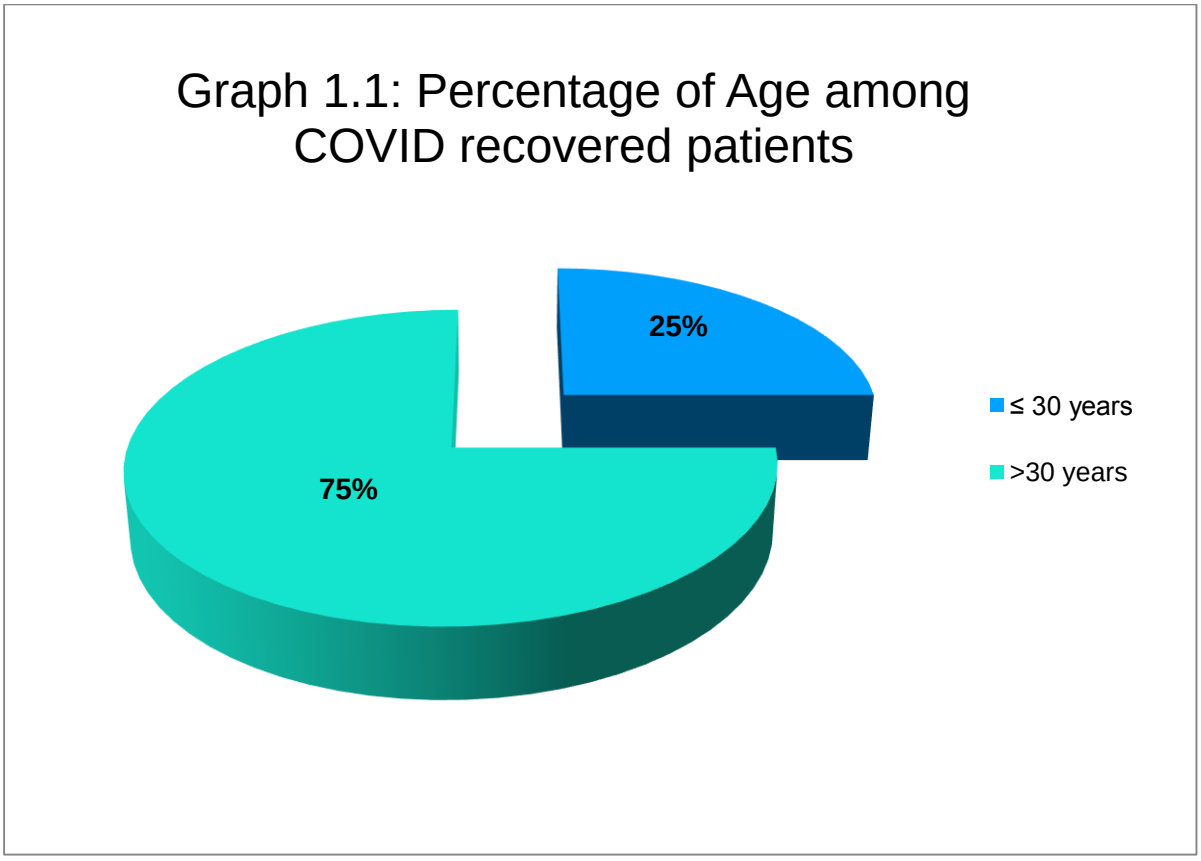


Table 2: Descriptive statistics of Education of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Education	Higher secondary	65	27.5
	Graduation	125	53.0
	Post graduate	46	19.5

Table 1.2 shows that the majority of 53% patients were graduates; 27.5% patients did higher secondary education and 19.5% patients were post graduates in this study.

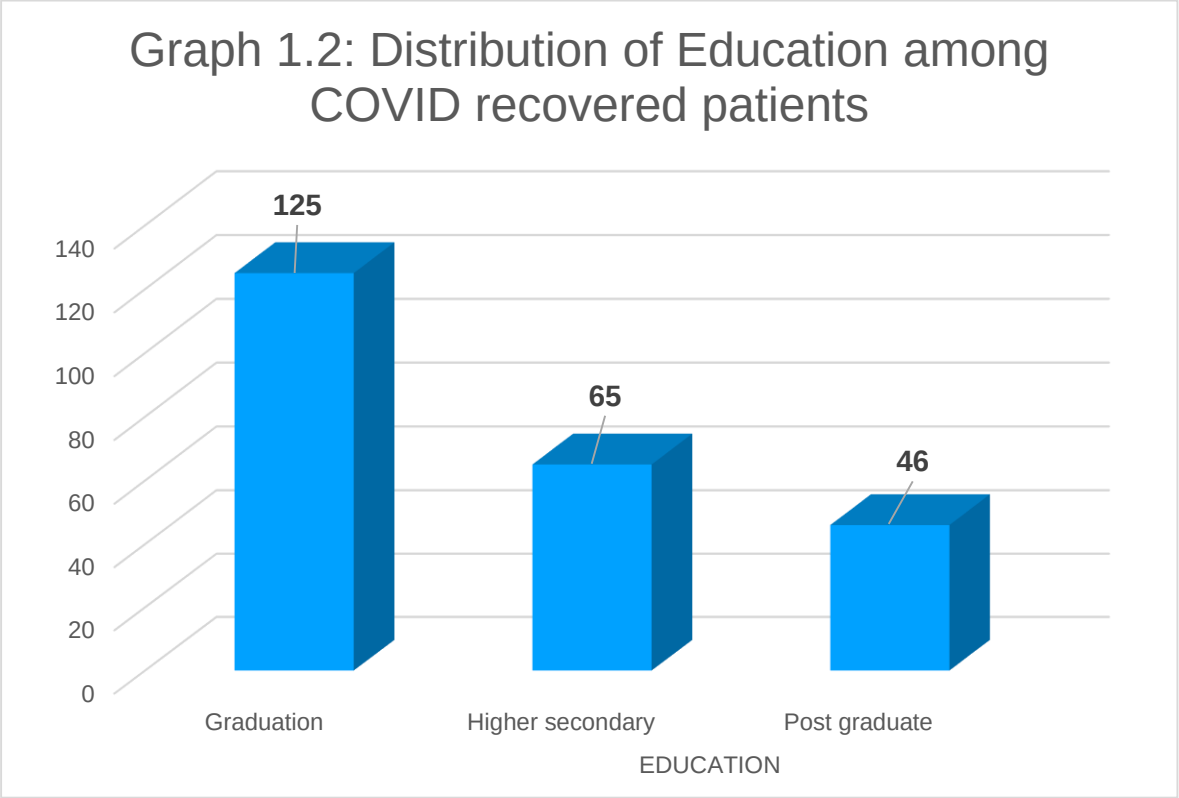


Table1.3: Descriptive statistics of Occupation of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Occupation	Employed	166	70.3
	Unemployed	70	29.7

Table 1.3 shows that the majority of 70.3% patients were employed and 29.7% patients were unemployed in this study.

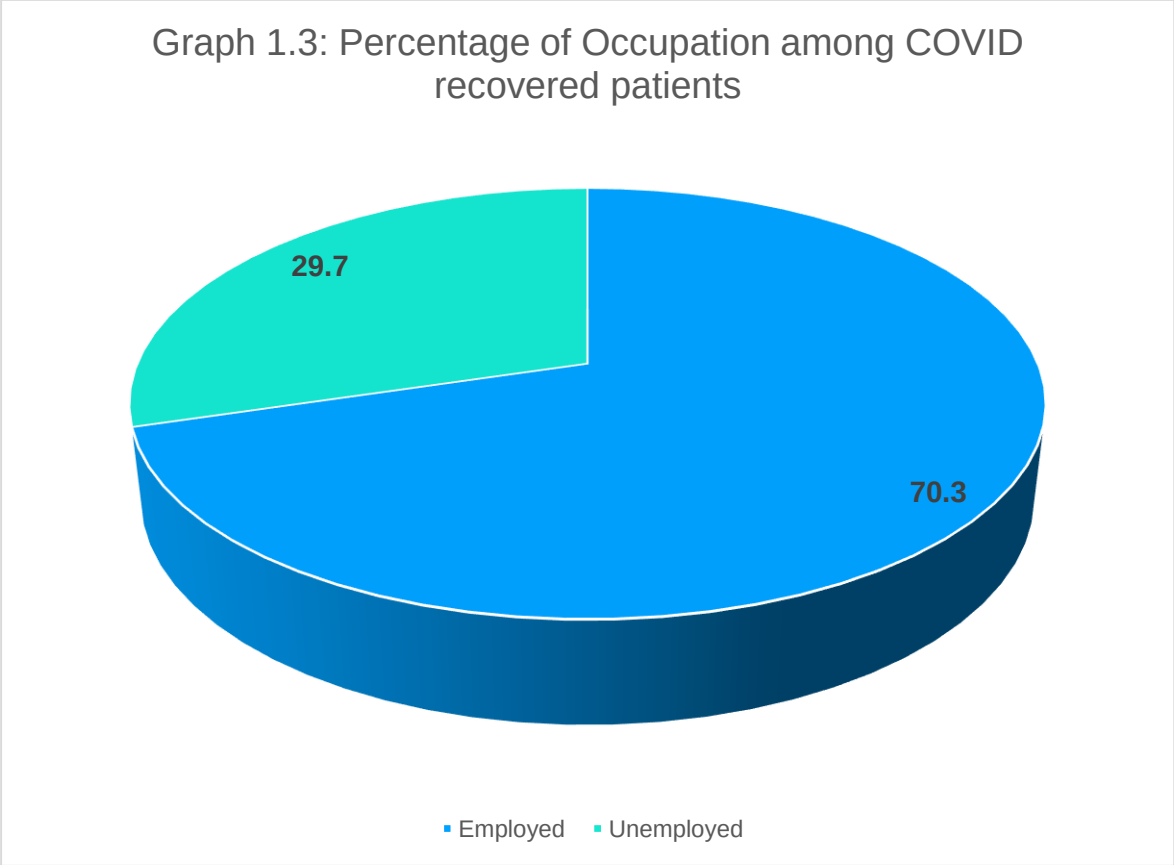


Table 1.4: Descriptive statistics of Substance used by COVID 19 recovered patients

N=236

Demographical Variable	Categories	Frequency	Percent
Substance Use	Alcohol	46	19.5
	Cigarette	77	32.6
	Others	53	22.5
	No	60	25.4

Table 1.4 shows that the majority of

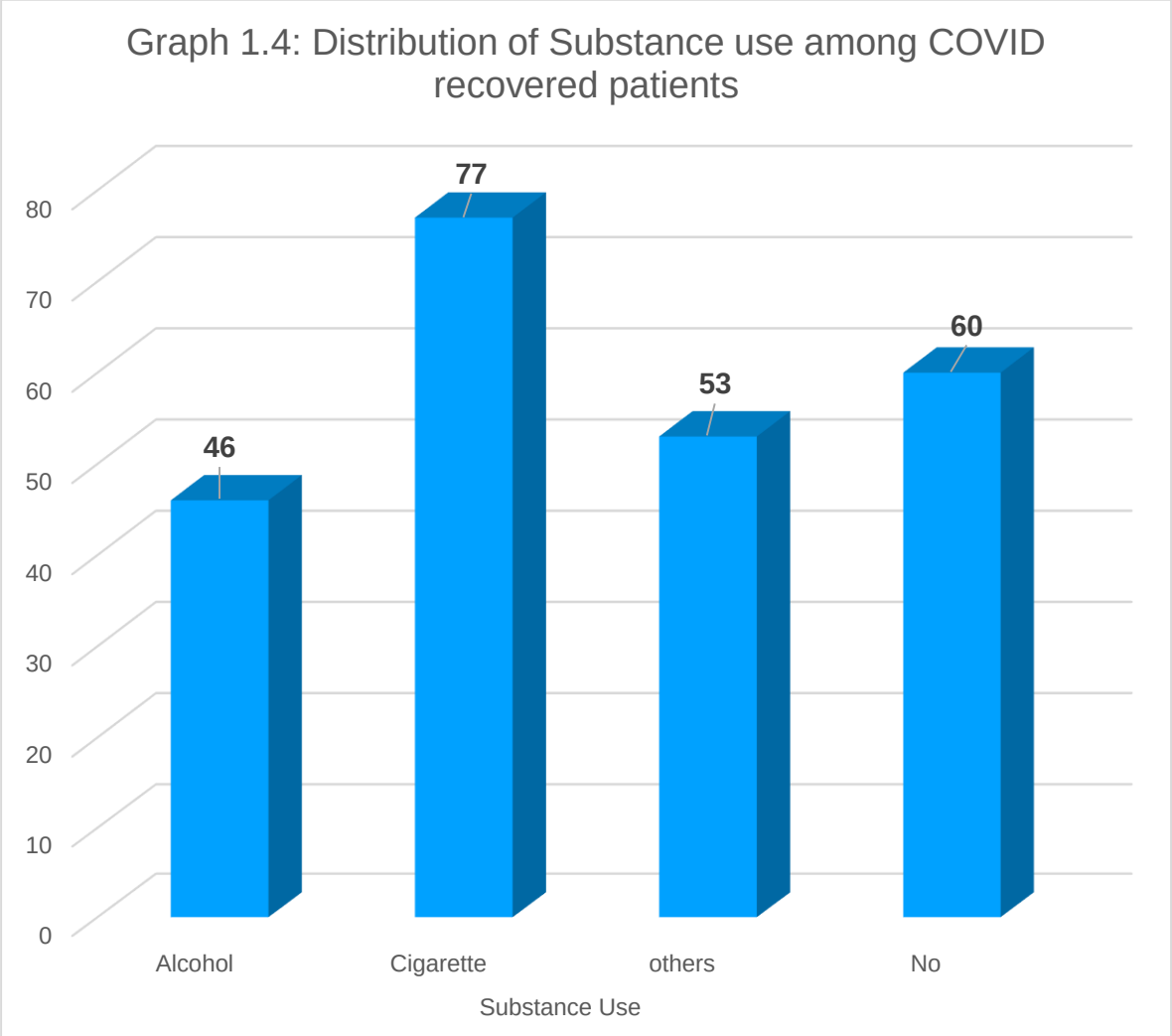


Table 1.5: Descriptive statistics of marital status of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Marital status	Married	192	81.4
	Unmarried	44	18.6

Table 1.5 shows that the majority of 81.4% patients were married and 18.6% patients were unmarried in this study.

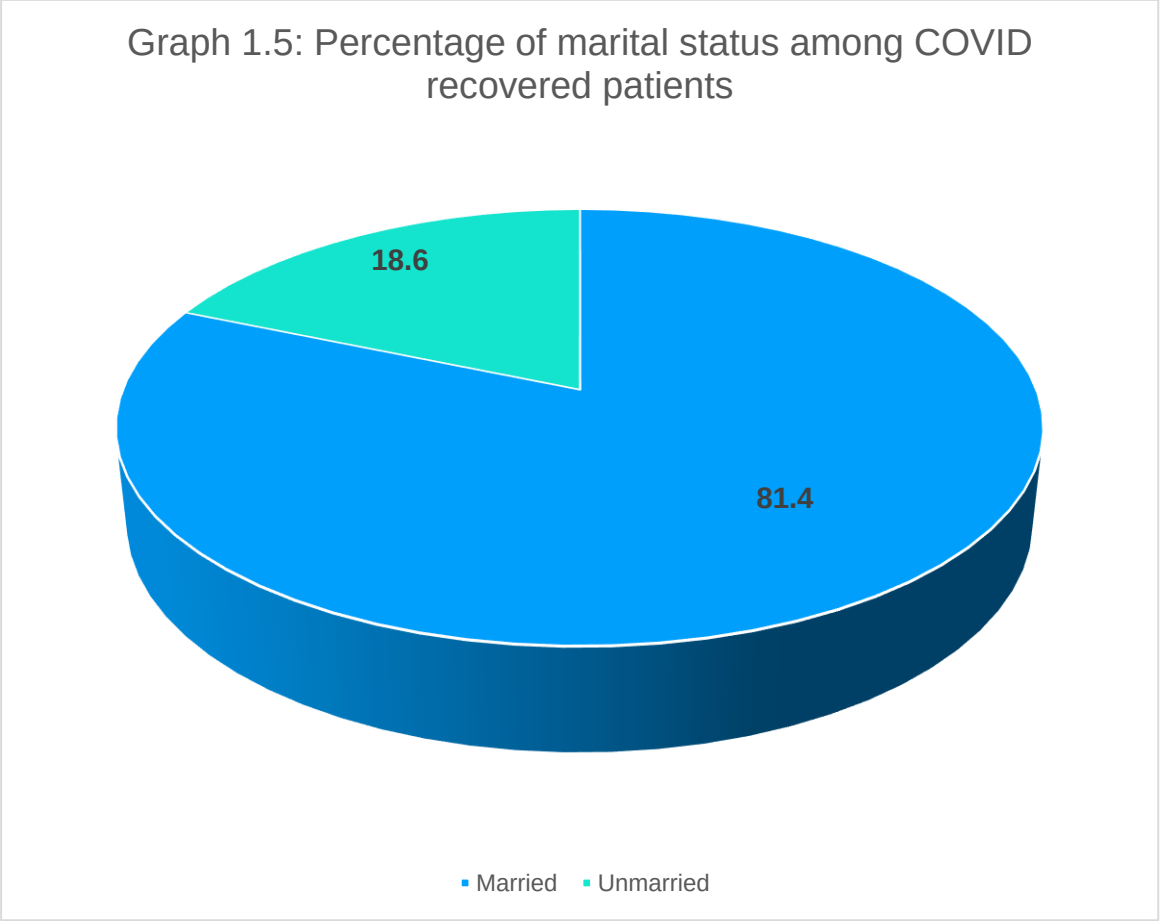


Table 1.6: Descriptive statistics of marital relationship of COVID 19 recovered patients

N=236

Demographical Variable	Categories	Frequency	Percent
Marital Relationship	Fair	93	39.4
	Good	88	37.3
	Poor	11	4.7
	Unmarried	44	18.6

Table 1.6 shows that the majority of 39.4% patients had fair marriage relationship; 37.3% patients had good marriage relationship and 4.7% patients had poor marriage relationship in this study.

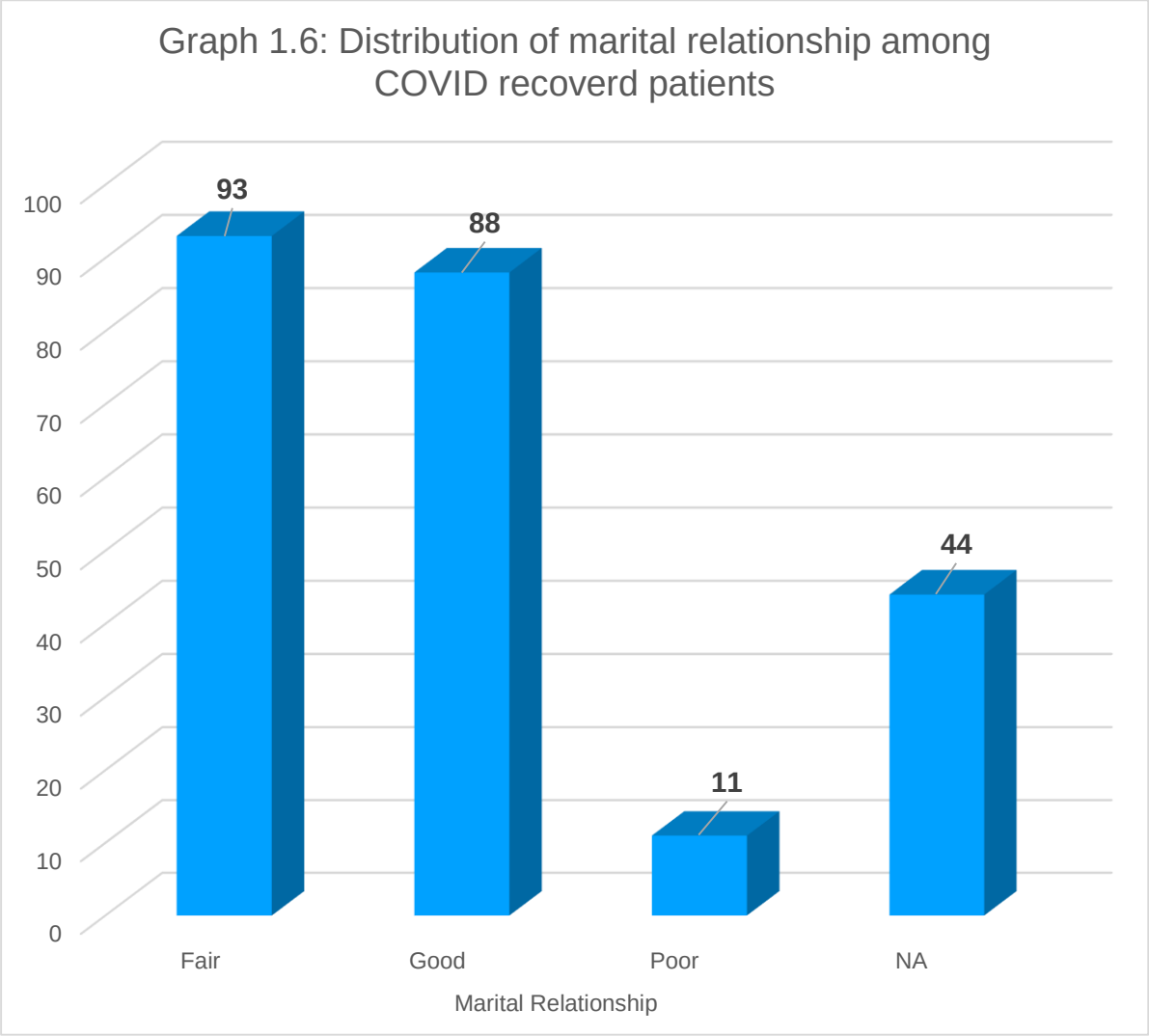


Table 1.7: Descriptive statistics of Number of living children of COVID 19 recovered patients

N=236

Demographical Variable	Categories	Frequency	Percent
Number of living children	0	85	36.0
	1	19	8.1
	2	54	22.9
	3	20	8.5
	4	11	4.7
	5	3	1.3
	Unmarried	44	18.6

Table 1.7 shows that the majority of 36% patients had no living child; 22.9% patients had two living children; 8.5% patients had three living children; 8.1% patients had one child; 4.7% patients had four living children and 1.3% patients had five living children in this study.

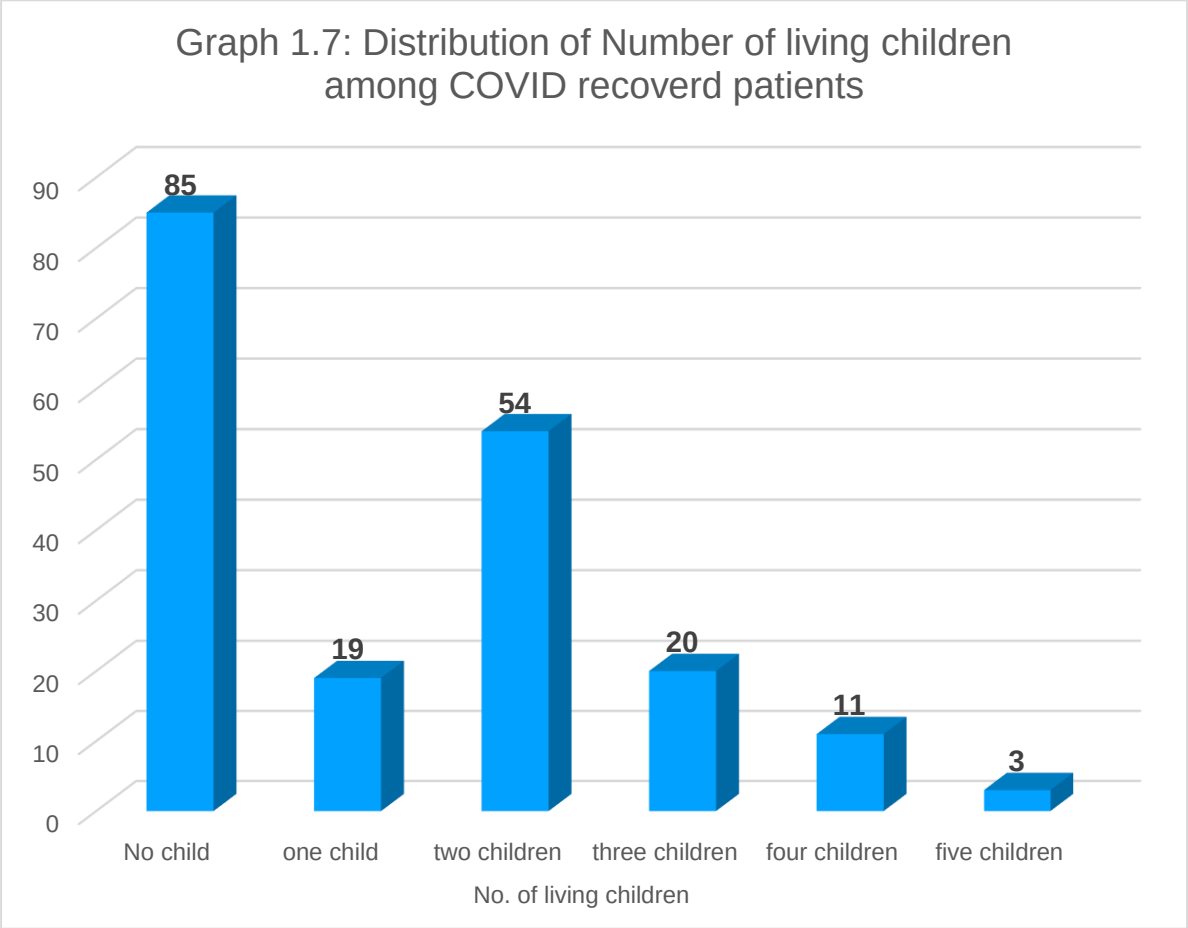


Table 1.8: Descriptive statistics of Family of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Family	Joint	71	30.1
	Nuclear	165	69.9

Table 1.8 shows that the majority of 69.9% patients had nuclear family and 30.1% patients had joint family in this study.

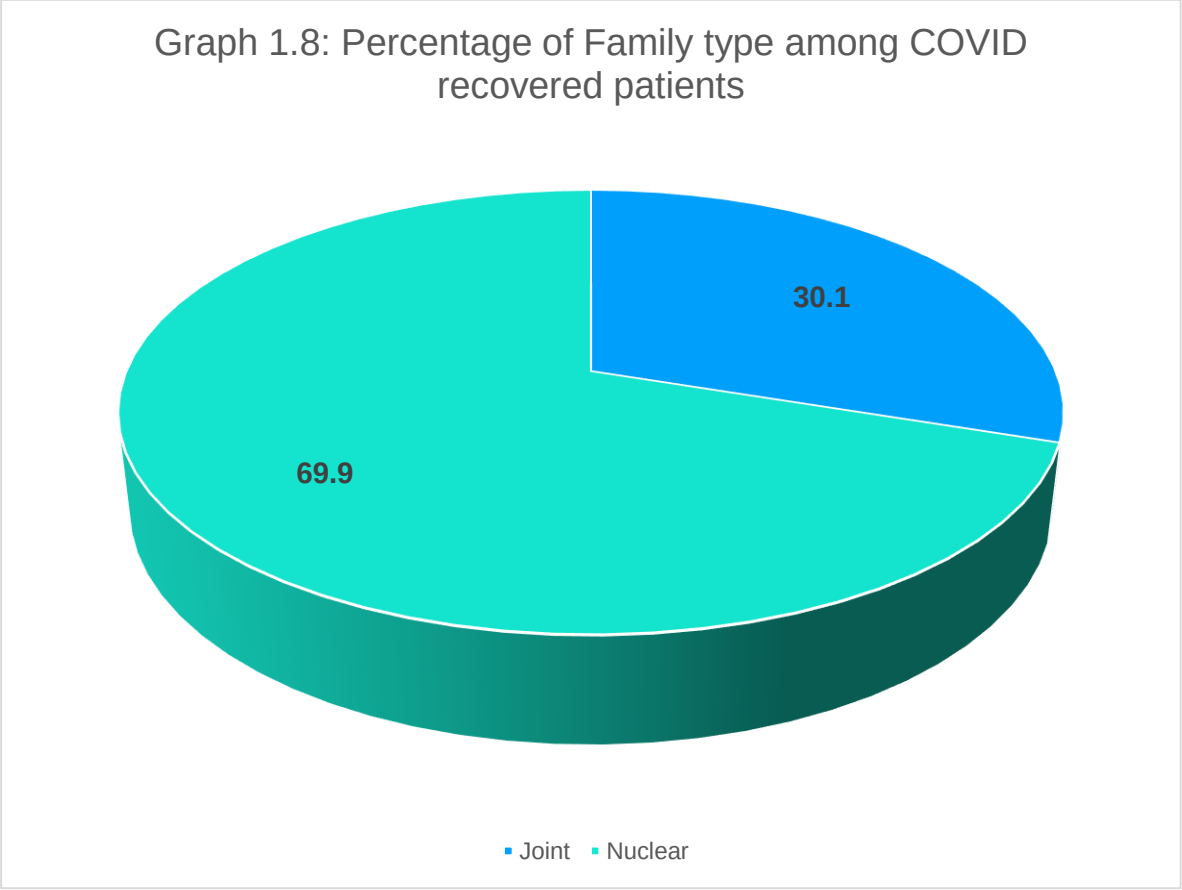


Table 1.9: Descriptive statistics of Past medical history of COVID 19 recovered patients

N=236

Demographical Variable	Categories	Frequency	Percent
Past medical history	No	79	33.5
	Yes	157	66.5

Table 1.9 shows that the majority of 66.5% patients had past medical history and 33.5% patients had no past medical history in this study.

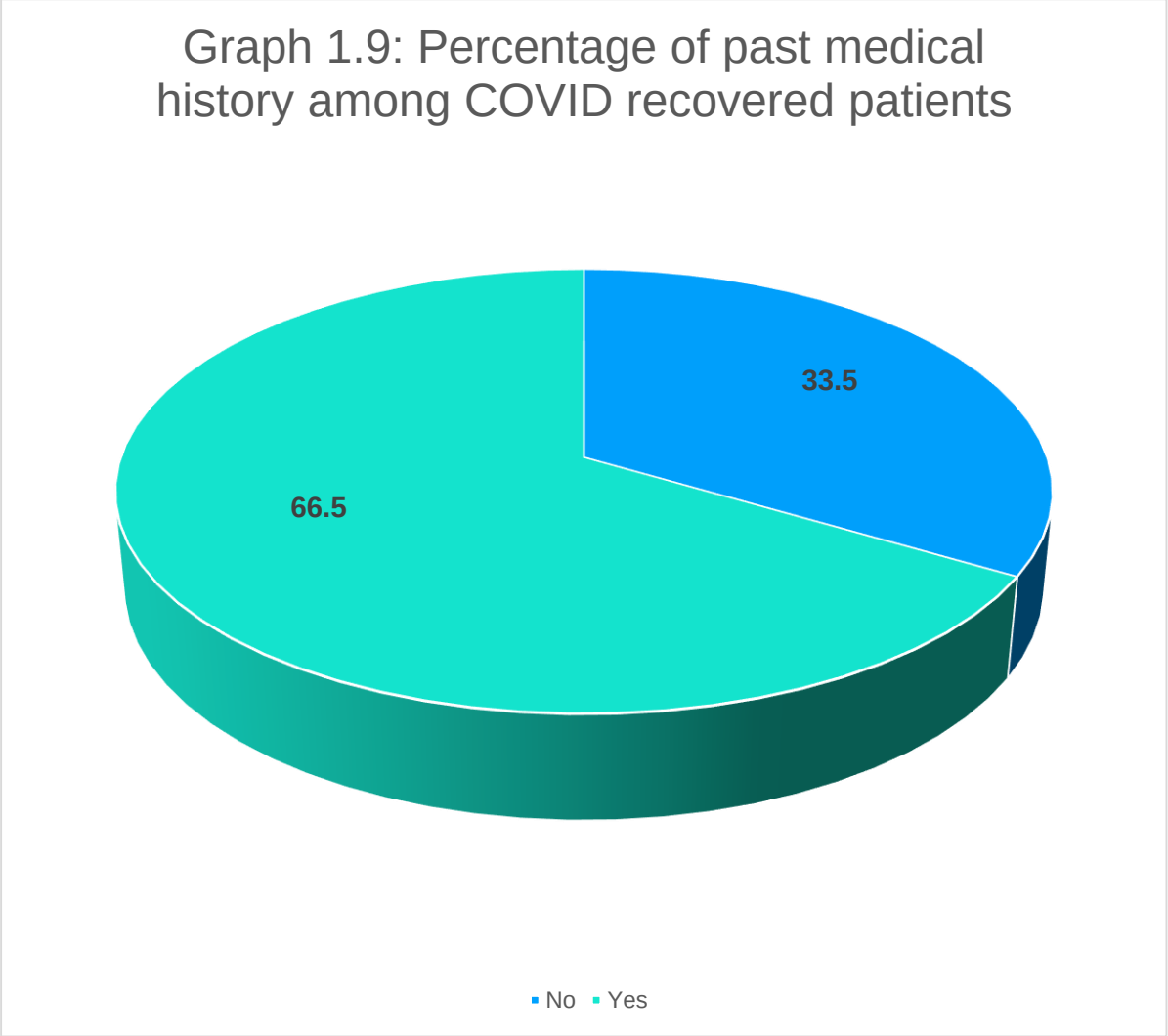


Table 1.10: Descriptive statistics of Past history of psychiatric history of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Past history of psychiatric history	No	138	58.5
	Yes	98	41.5

Table 1.10 shows that the majority of 58.5% patients had no past history of psychiatric history and 41.5% patients had past history of psychiatric history in this study.

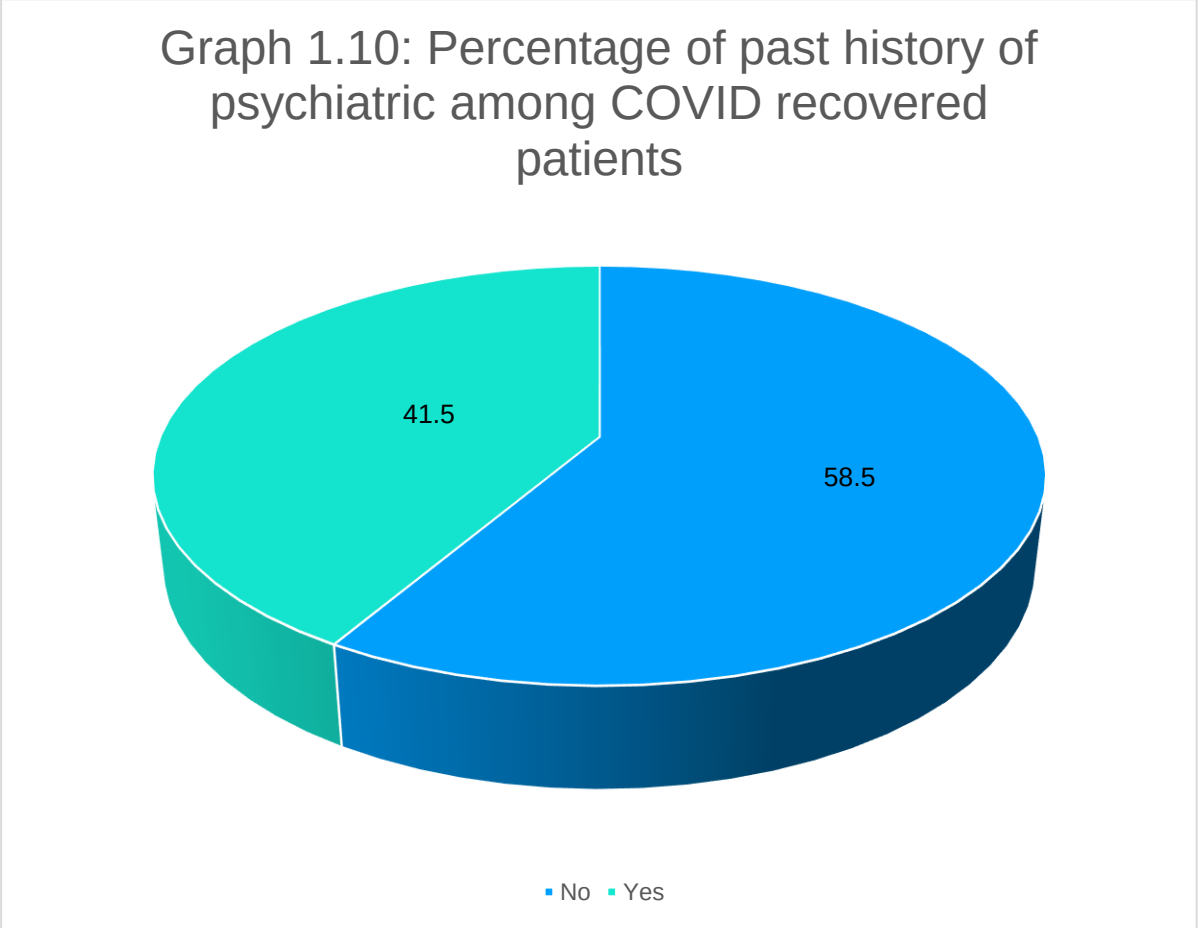


Table 1.11: Descriptive statistics of History of previous psychiatric hospitalization of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
History of previous psychiatric hospitalisation	No	179	75.8
	Yes	57	24.2

Table 1.11 shows that the majority of 75.8% patients had no history of previous psychiatric hospitalization and 24.2% patients had history of previous psychiatric hospitalization in this study.

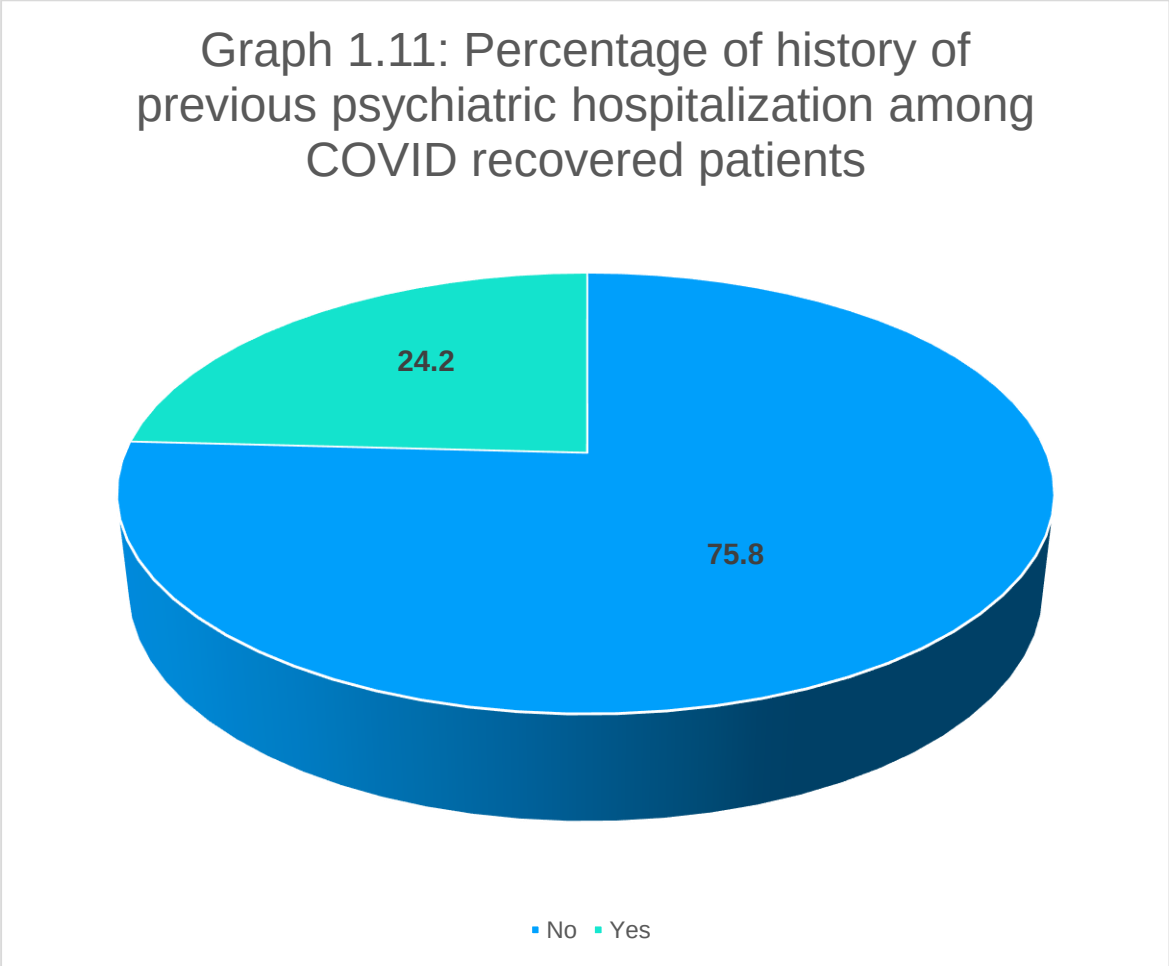


Table 1.12: Descriptive statistics of Family history of psychiatric illness of COVID 19 recovered patients N=236

Demographical Variable	Categories	Frequency	Percent
Family history of psychiatric illness	No	192	81.4
	Yes	44	18.6

Table 1.12 shows that the majority of 81.4% patients had no family history of psychiatric illness and 18.6% patients had family history of psychiatric illness in this study.

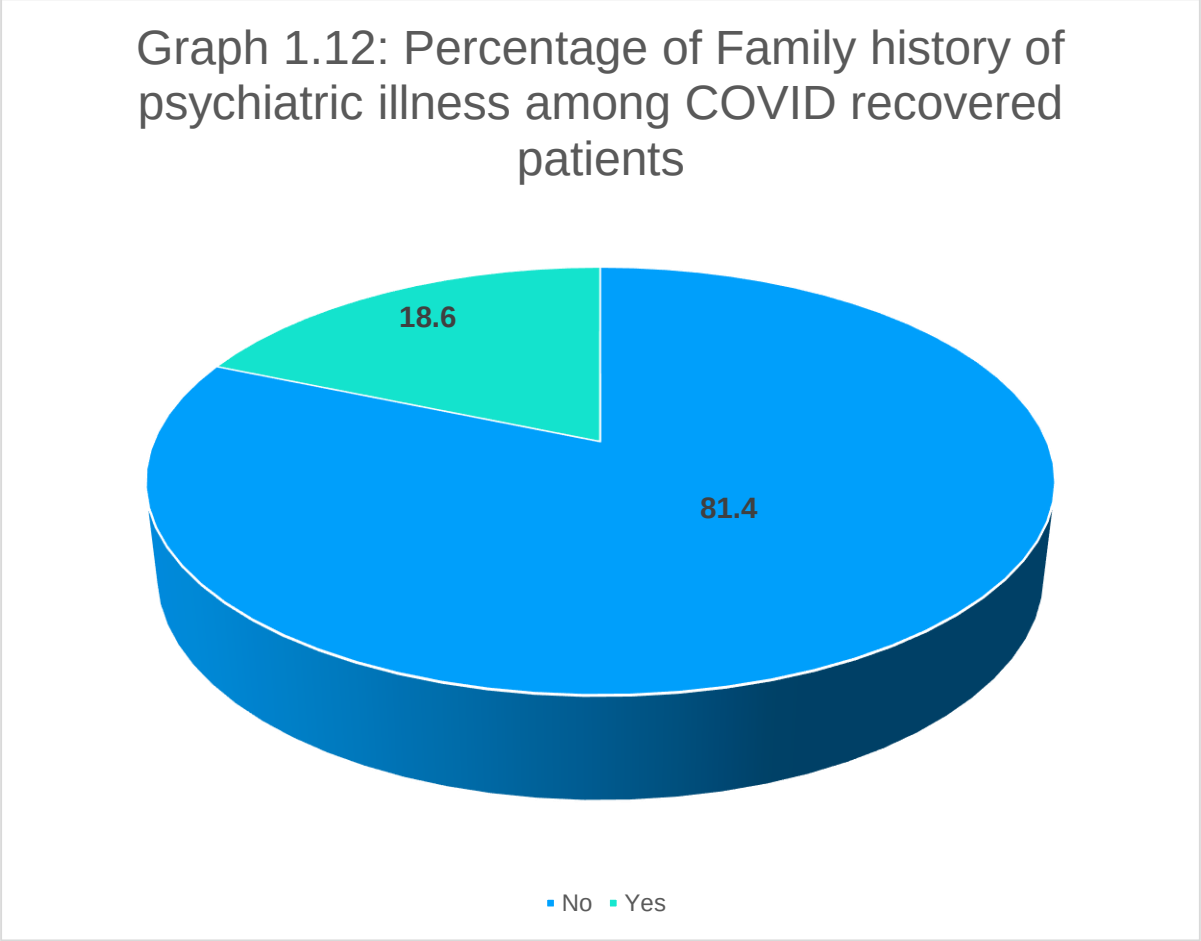


Table 1.13: Descriptive statistics of Family history of suicide of COVID 19 recovered patients

N=236

Demographical Variable	Categories	Frequency	Percent
Family history of suicide	No	205	86.9
	Yes	31	13.1

Table 1.13 shows that the majority of 86.9% patients had no family history of suicide and 13.1% patients had family history of suicide in this study.

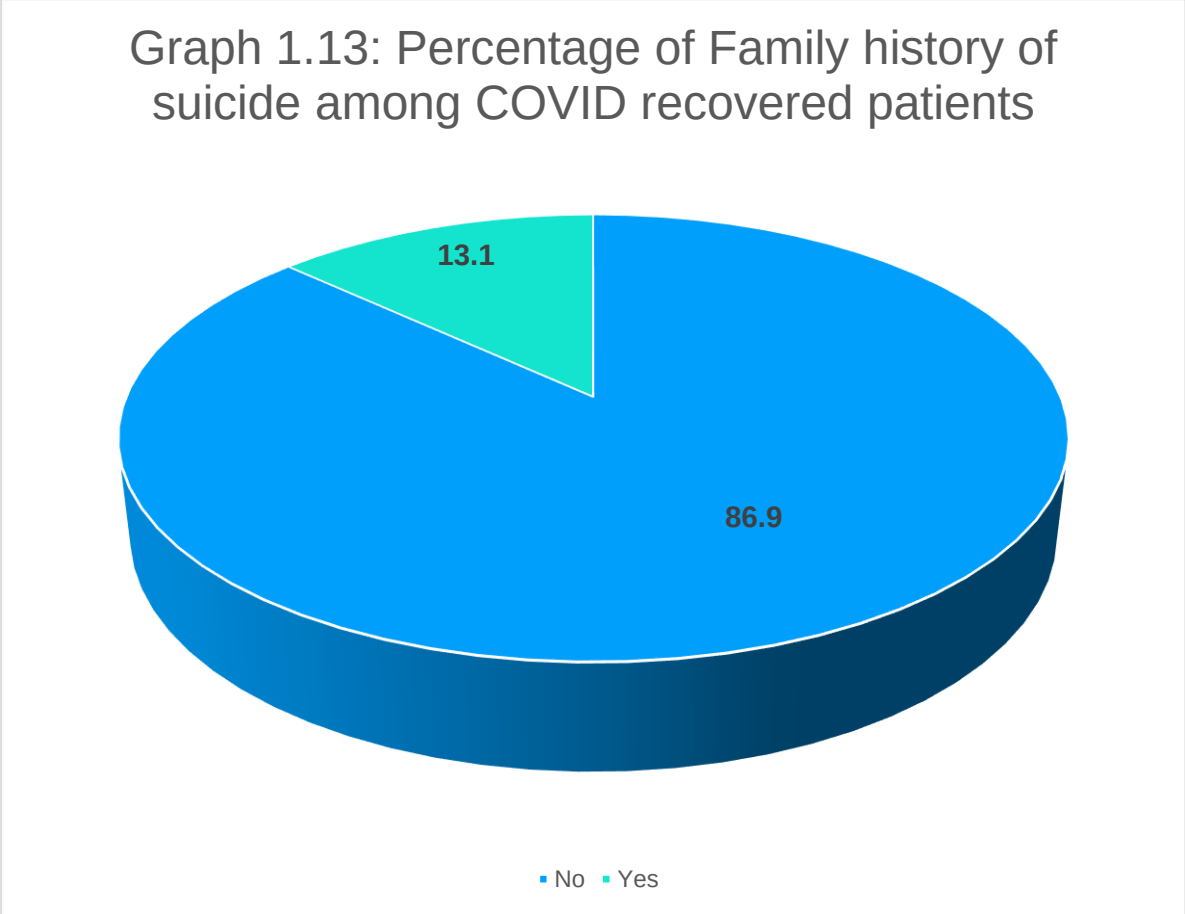


Table 2.1: Descriptive statistics of Depression level in COVID 19 recovered patients

N=236

ZUNG self-rating depression scale	Frequency	Percent	Mean ± SD
Mildly	106	44.9	45.88 ± 11.824
Moderate	16	6.8	
Normal	105	44.5	
Severely	9	3.8	

Table 2.1 shows that the average depression scale was 45.88 out of 80. The majority of 44.9% patients had mild depression; 44.5% patients were normal; 6.8% patients had moderate depression and 3.8% patients had severely depression in this study.

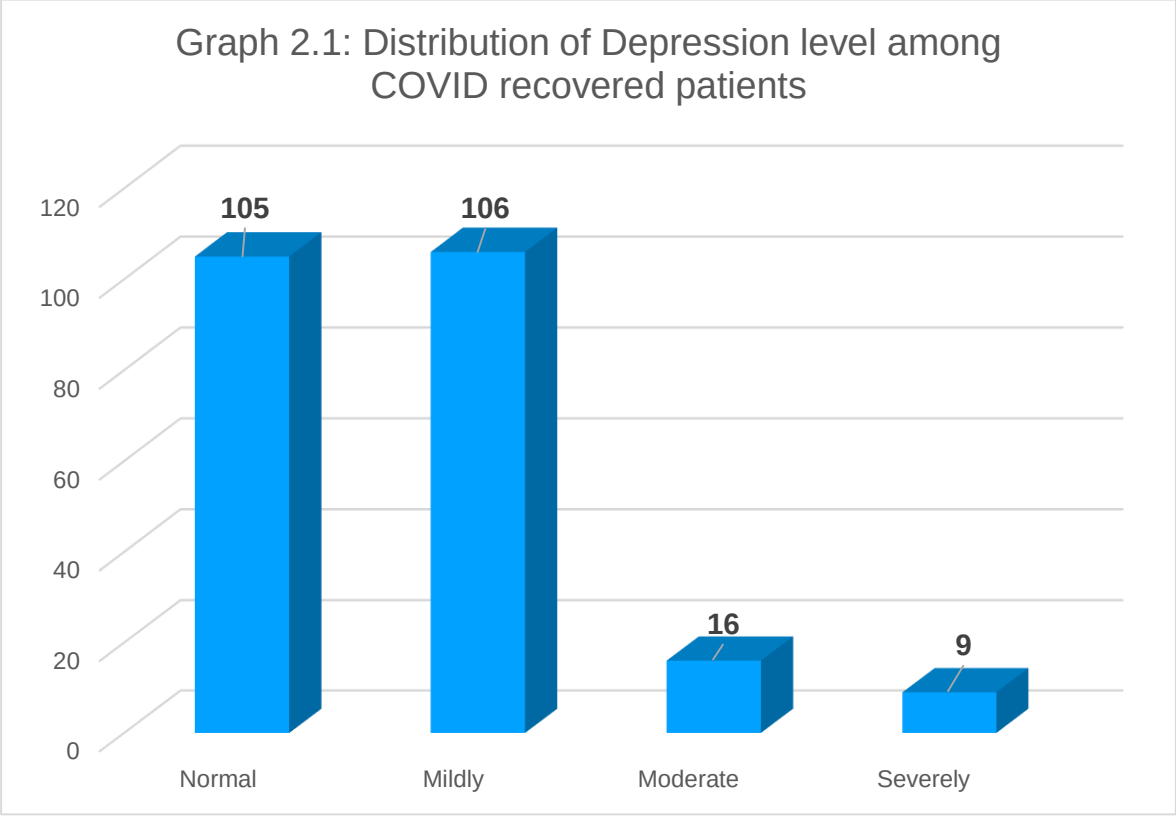


Table 2.2: Descriptive statistics of Obsessive-compulsive scale in COVID 19 recovered patients

N=236

Yale brown obsessive-compulsive scale	Frequency	Percent	Mean ± SD
Mild or less	104	44.1	14.76 ± 8.095
Moderate	117	49.6	
Moderate severe	14	5.9	
Severe or greater	1	0.4	

Table 2.2 shows that the average obsessive-compulsive scale was 14.76 out of 40. The majority of 49.6% patients had moderate obsessive-compulsive; 44.1% patients had mild or less obsessive-compulsive; 5.9% patients had moderate severe obsessive-compulsive and 0.4% patients had severe obsessive-compulsive in this study.

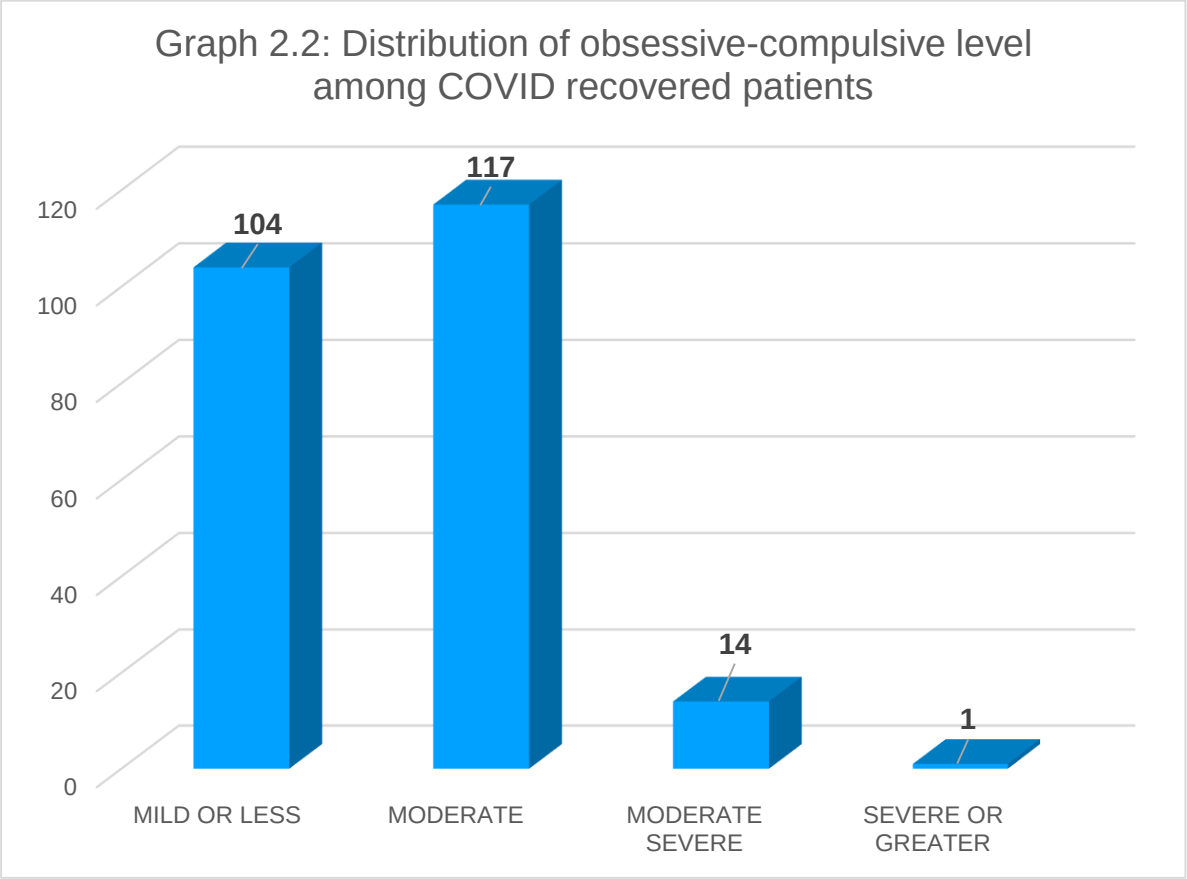


Table 2.3: Descriptive statistics of Perceived stress level in COVID 19 recovered patients

N=236

Perceived stress scale	Frequency	Percent	Mean ± SD
High	38	16.1	20.51 ± 6.601
Low	32	13.6	
Moderate	166	70.3	

Table 2.3 shows that the average perceived stress scale was 20.51 out of 40. The majority of 70.3% patients had moderate stress; 16.1% patients had high stress and 13.6% patients had low stress in this study.

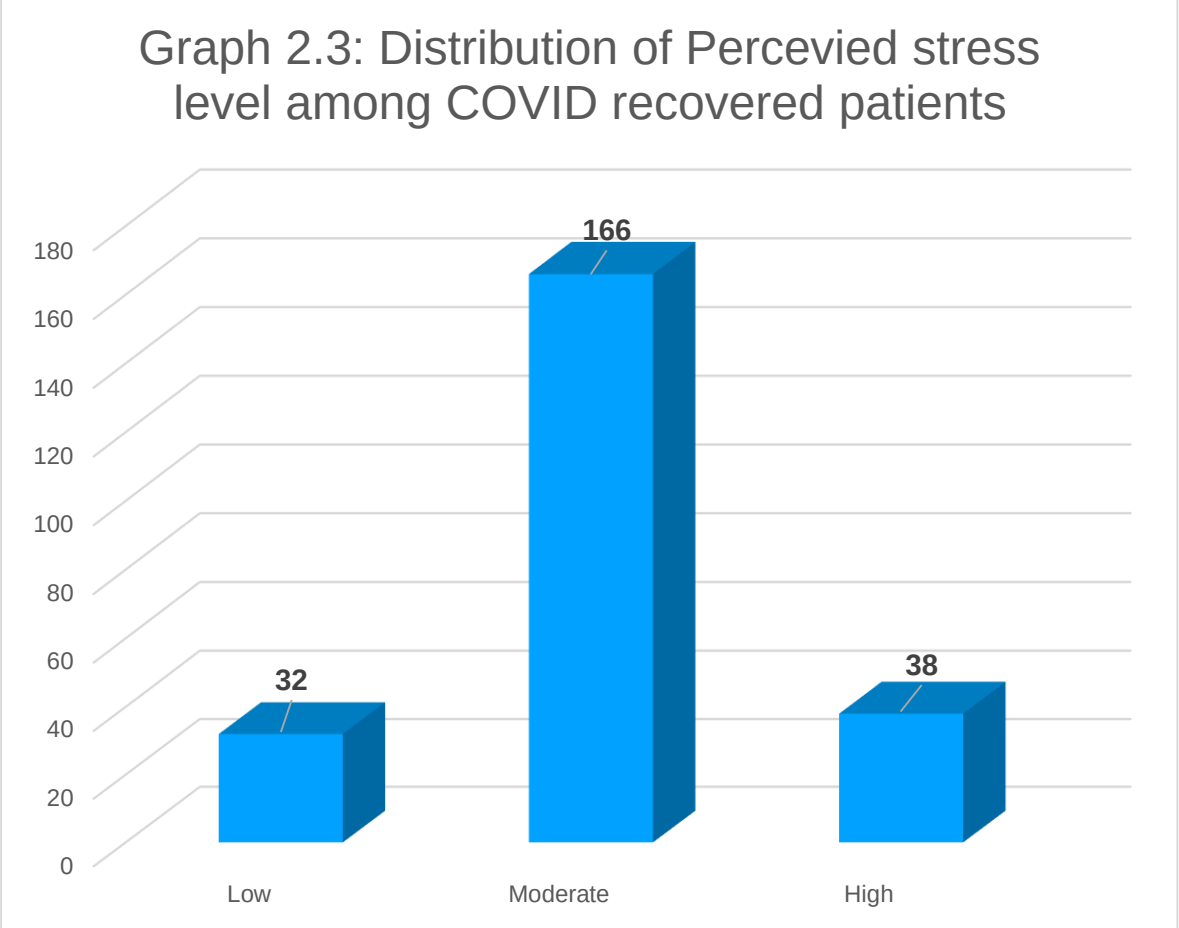


Table 2.4: Descriptive statistics of Anxiety scale in COVID 19 recovered patients

N=236

ZUNG self-rating Anxiety Scale	Frequency	Percent	Mean ± SD
Normal	87	36.9	47.60 ± 9.714
Mild to Moderate	124	52.5	
Moderate to Severe	25	10.6	
Extremely Severe	0	0.0	

Table 2.4 shows that the average Anxiety scale was 47.60 out of 80. The majority of 52.5% patients had mild to moderate anxiety level; 36.9% patients had normal anxiety and 10.6% patients had moderate to severe anxiety level in this study.

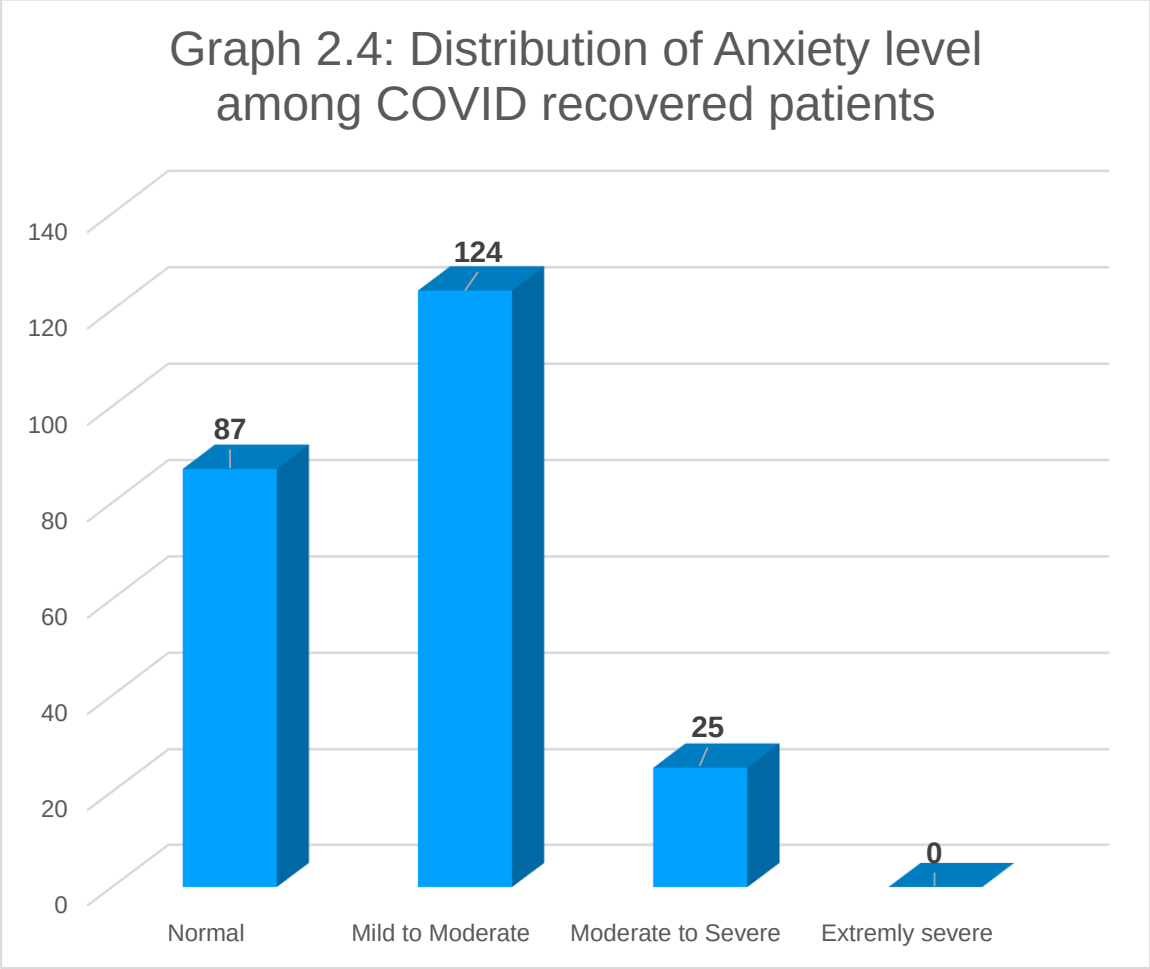


Table 3: Relationship between different psychiatric morbidities parameters among COVID 19 recovered patients N=236

S. No.	Variables	Correlation coefficient (r)	P-value
1	Depression scale Vs Obsessive compulsive scale	0.523	0.001
2	Depression scale Vs Stress Scale	0.505	0.001
3	Depression Scale Vs Anxiety scale	0.581	0.001
4	Obsessive compulsive scale Vs Stress scale	0.557	0.001
5	Obsessive compulsive scale Vs Anxiety scale	0.464	0.001
6	Stress scale Vs Anxiety scale	0.596	0.001

Table 3 shows that relationship between different psychiatric morbidities parameters. There was statistically significance relationship between depression scale and Obsessive-compulsive scale with r=0.523; stress scale with r=0.505; anxiety scale with r=0.581. Relationship between Obsessive-compulsive scale and stress scale with r=0.557; anxiety scale with r=0.464. And relationship between stress scale and anxiety scale with r=0.596.

Table 4.1: Relationship between Depression level and gender among COVID 19 recovered patients N=236

Gender	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
Female	47 (44.8%)	46 (43.4%)	3 (18.8%)	2 (22.2%)
Male	58 (55.2%)	60 (56.6%)	13 (81.3%)	7 (77.8%)

*Chi-square value 5.405 with 3 DF and P=0.144

Table 4.1 shows that relationship between Depression level and gender among COVID 19 recovered patients. There was no significant relationship between depression level and gender with P>0.05. Maximum female and male patients had no or mild depression level in this study.

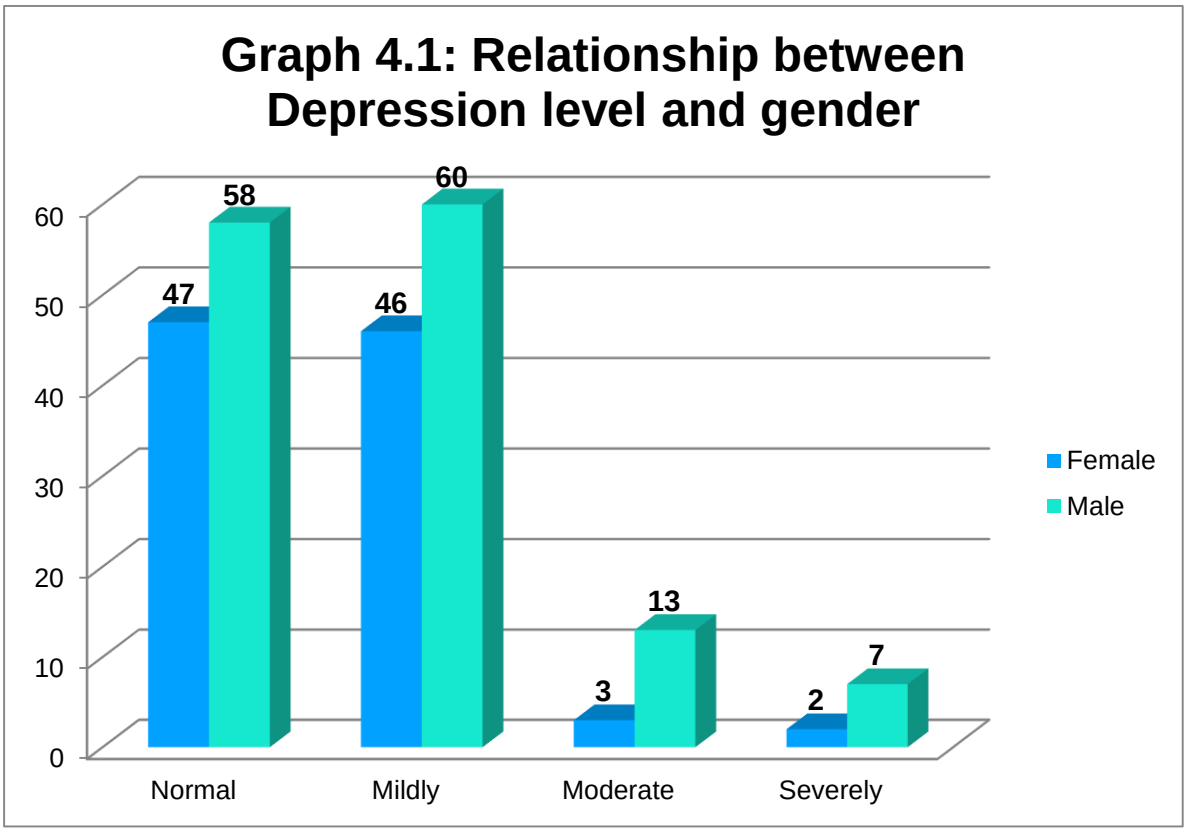


Table 4.2: Relationship between Depression level and age among COVID 19 recovered patients

N=236

AGE	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
≤ 30 years	30 (28.6%)	21 (19.8%)	6 (37.5%)	2 (22.2%)
>30 years	75 (71.4%)	85 (80.2%)	10 (62.5%)	7 (77.8%)

*Chi-square value 3.607 with 3 DF and P=0.307

Table 4.2 shows that relationship between Depression level and age among COVID 19 recovered patients. There was no significant relationship between depression level and age with P>0.05. Greater than 30 years age grouped patients had normal and mild depression level in this study.

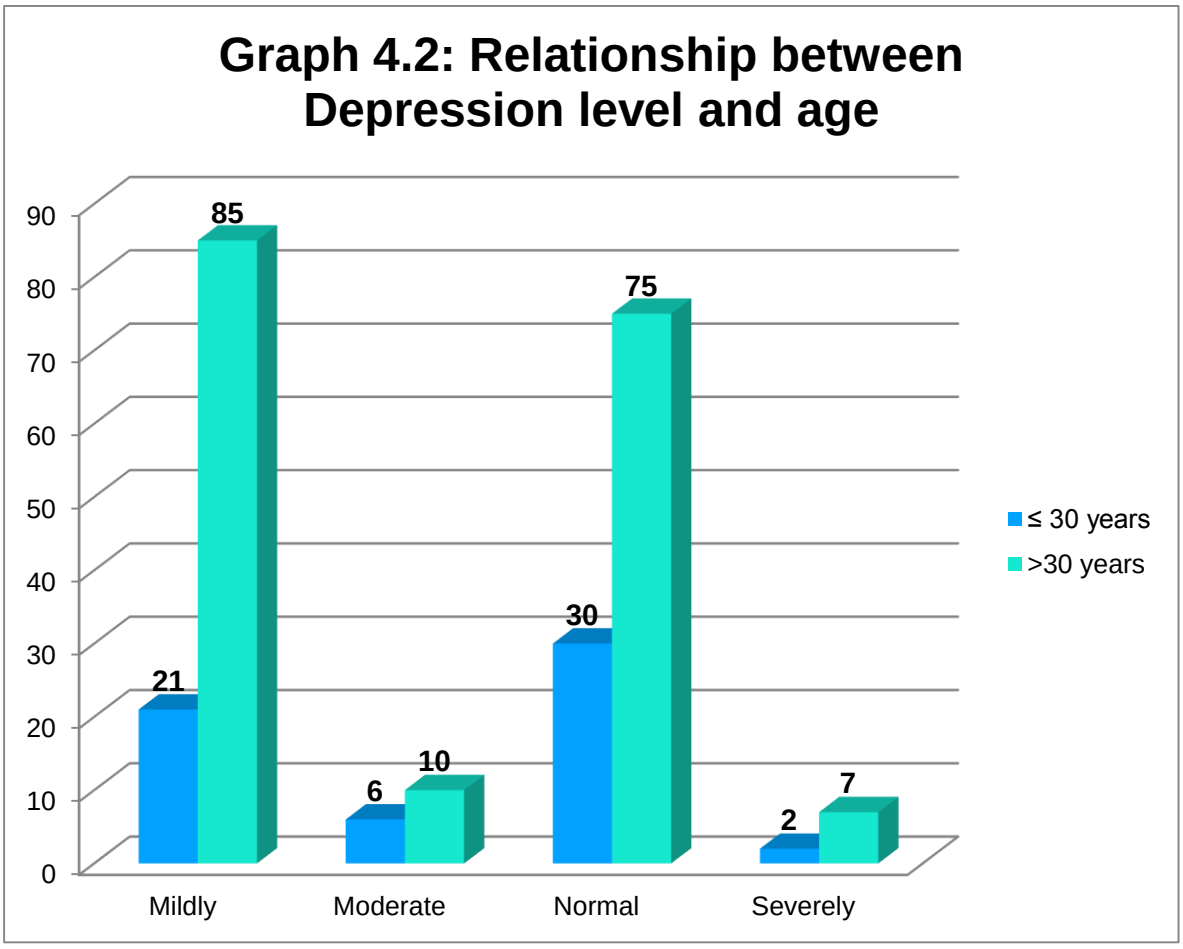


Table 4.3: Relationship between Depression level and education among COVID 19 recovered patients N=236

Education	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
Higher secondary	25 (23.8%)	32 (30.2%)	5 (31.3%)	3 (33.3%)
Graduation	50 (47.6%)	60 (56.6%)	11 (68.8%)	4 (44.4%)
Post graduate	30 (28.6%)	14 (13.2%)	0 (0.0%)	2 (22.2%)

*Chi-square value 12.440 with 6 DF and P=0.053

Table 4.3 shows that relationship between Depression level and education among COVID 19 recovered patients. There was no significant relationship between depression level and education with P>0.05. Maximum graduate education patients had normal and mild depression level in this study.

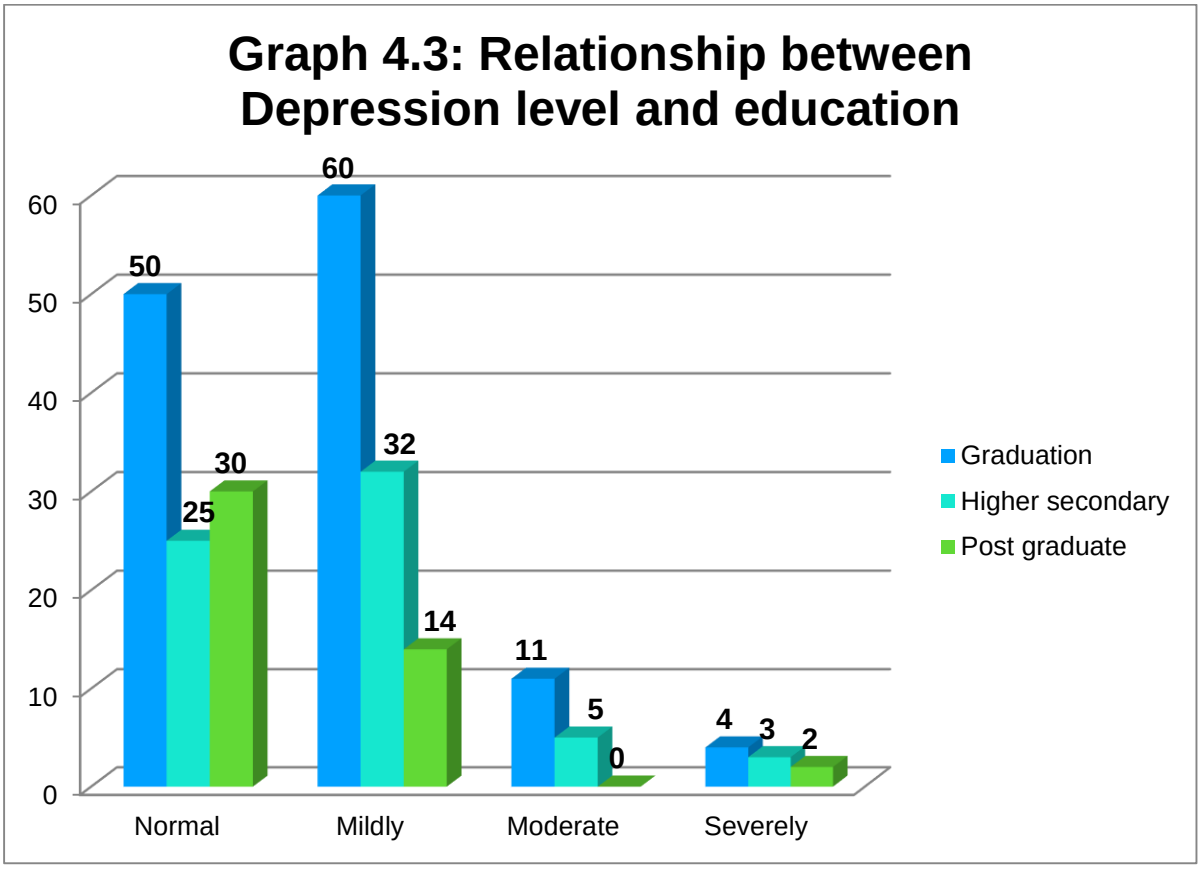


Table 4.4: Relationship between Depression level and occupation among COVID 19 recovered patients N=236

Occupation	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
Employed	71 (67.6%)	76 (71.7%)	14 (87.5%)	5 (55.6%)
Unemployed	34 (32.4%)	30 (28.3%)	2 (12.5%)	4 (44.4%)

*Chi-square value 3.667 with 3 DF and P=0.300

Table 4.4 shows that relationship between Depression level and occupation among COVID 19 recovered patients. There was no significant relationship between depression level and occupation with P>0.05. Maximum employed patients had normal and mild depression level in this study.

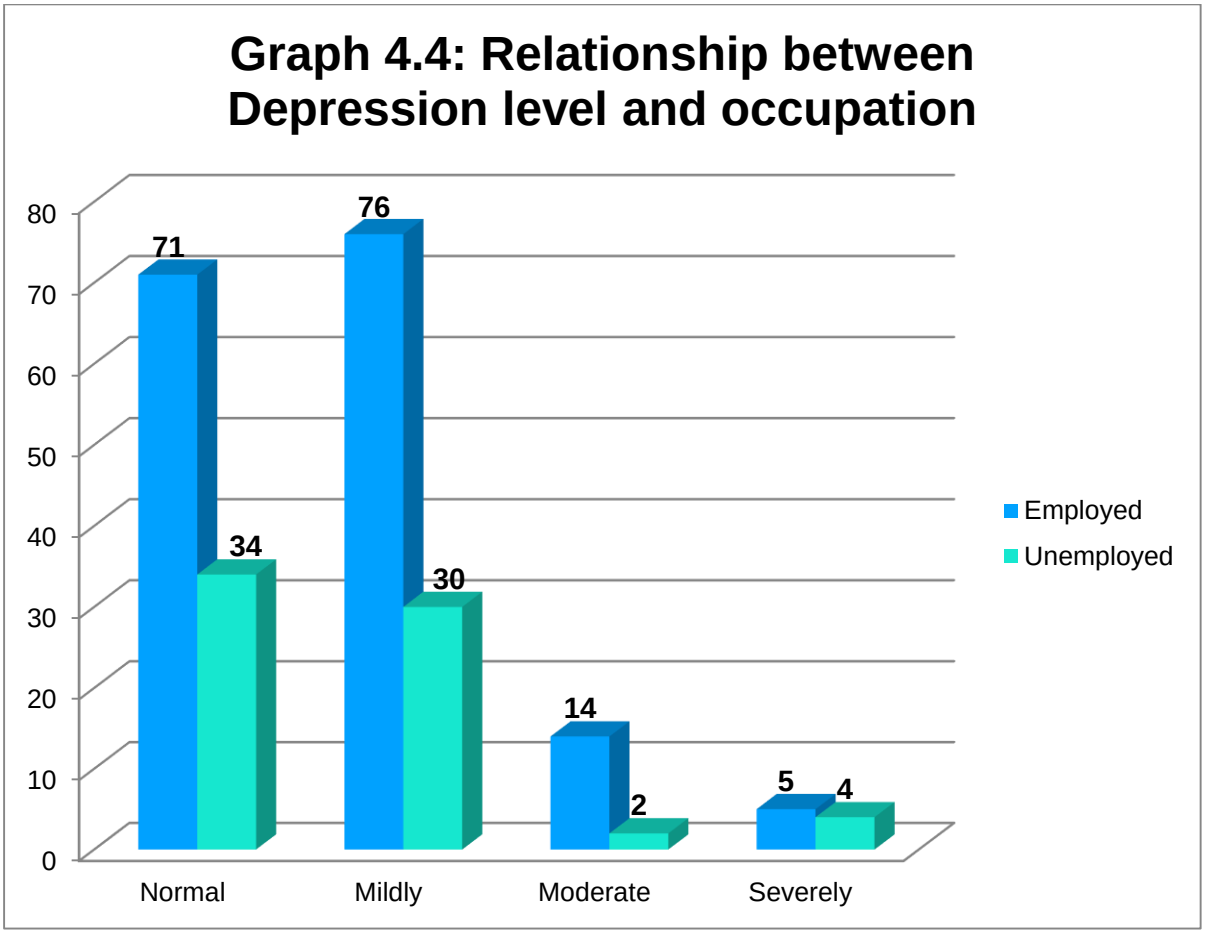


Table 4.5: Relationship between Depression level and marital status among COVID 19 recovered patients N=236

Marital status	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
Married	80 (76.2%)	93 (87.7%)	12 (75.0%)	7 (77.8%)
Unmarried	25 (23.8%)	13 (12.3%)	4 (25.0%)	2 (22.2%)

*Chi-square value 5.194 with 3 DF and P=0.158

Table 4.5 shows that relationship between Depression level and marital status among COVID 19 recovered patients. There was no significant relationship between depression level and marital status with P>0.05. Maximum married patients had normal and mild depression level in this study.

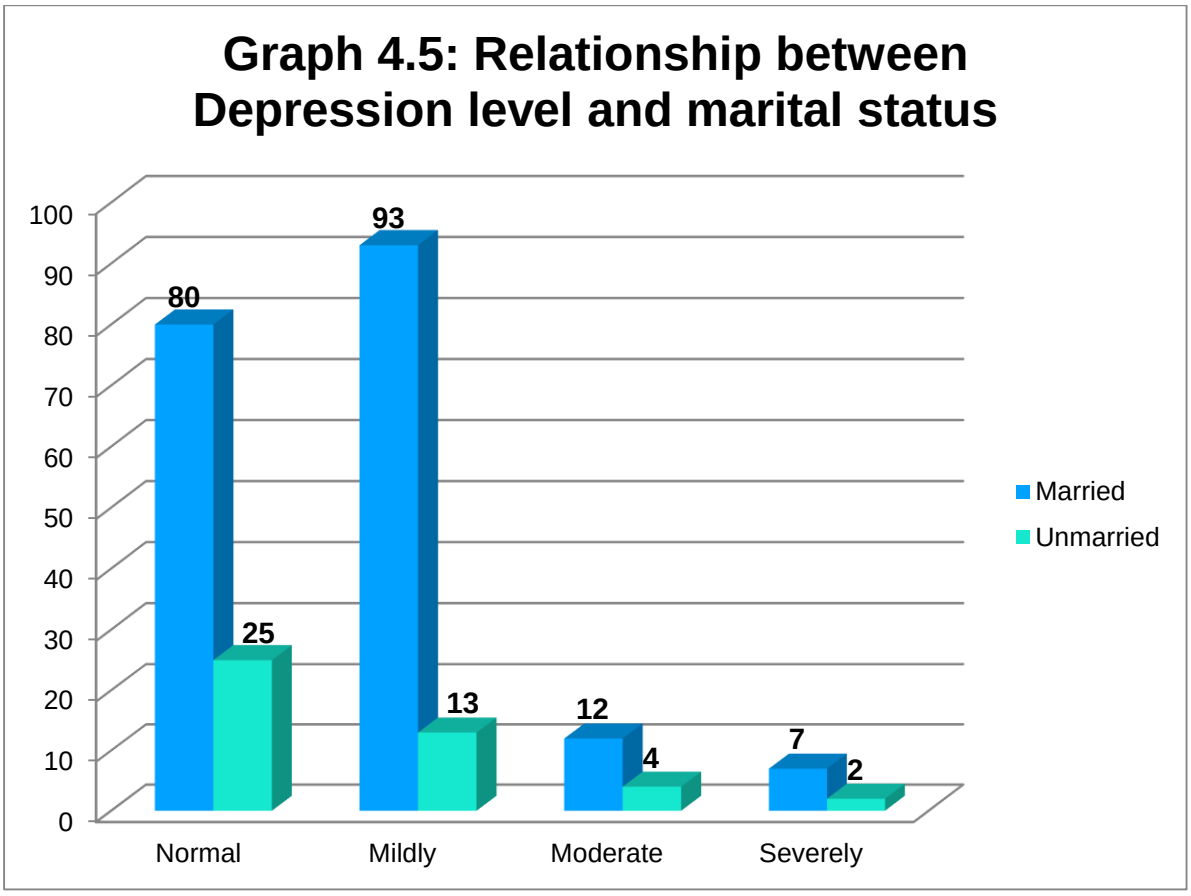


Table 4.6: Relationship between Depression level and family type among COVID 19 recovered patients N=236

Family type	Depression Level			
	Normal (n=105) (%)	Mildly (n=106) (%)	Moderate (n=16) (%)	Severely (n=09) (%)
Joint	36 (34.3%)	26 (24.5%)	5 (31.3%)	4 (44.4%)
Nuclear	69 (65.7%)	80 (75.5%)	11 (68.8%)	5 (55.6%)

*Chi-square value 3.330 with 3 DF and P=0.344

Table 4.6 shows that relationship between Depression level and Family type among COVID 19 recovered patients. There was no significant relationship between depression level and family type with P>0.05. Maximum nuclear family patients had normal and mild depression level in this study.

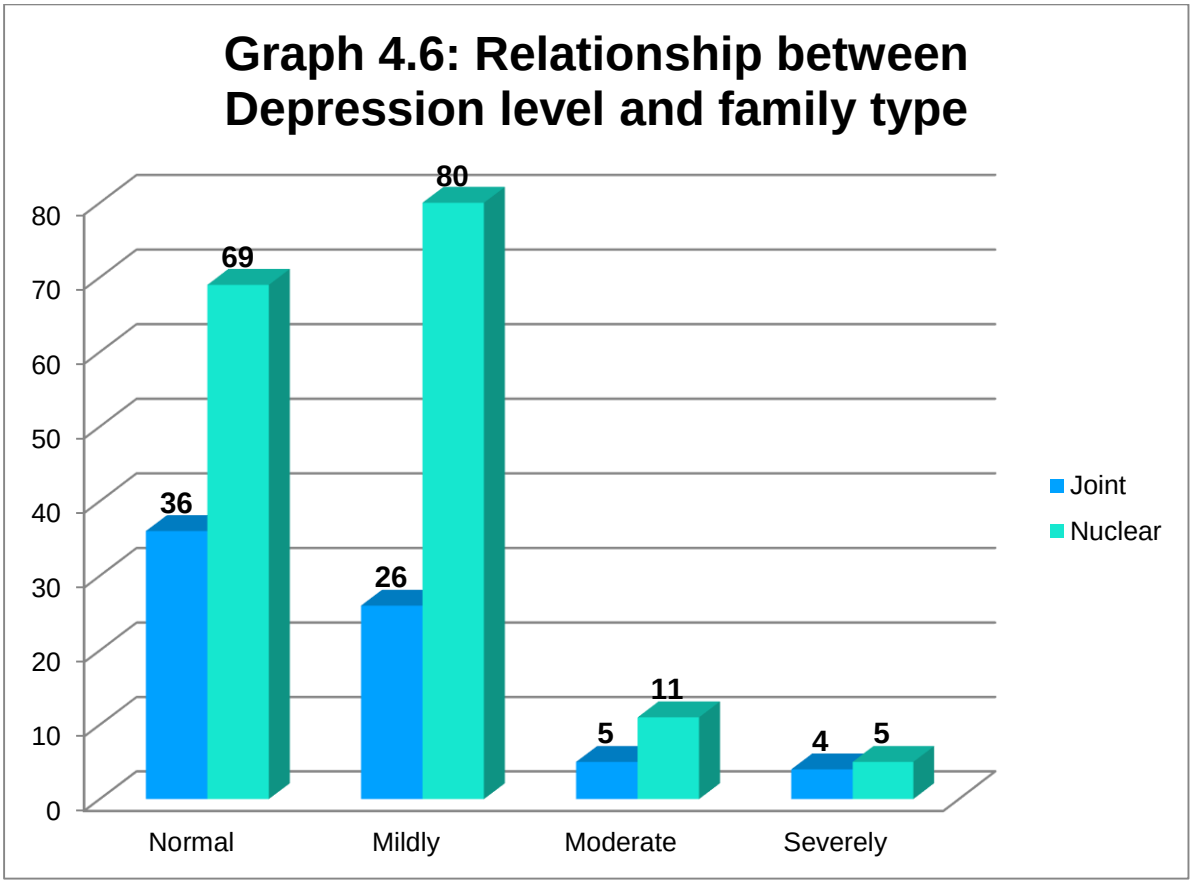


Table 5.1: Relationship between Obsessive-compulsive scale and gender among COVID 19 recovered patients N=236

Gender	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
Female	50 (48.1%)	41 (35%)	6 (42.9%)	1 (100%)
Male	54 (51.9%)	76 (65%)	8 (57.1%)	0 (0.0)

*Chi-square value 5.282 with 3 DF and P=0.152

Table 5.1 shows that relationship between Obsessive-compulsive level and gender among COVID 19 recovered patients. There was no significant relationship between Obsessive-compulsive level and gender with P>0.05. Maximum female and male patients had mild or less and moderate obsessive-compulsive level in this study.

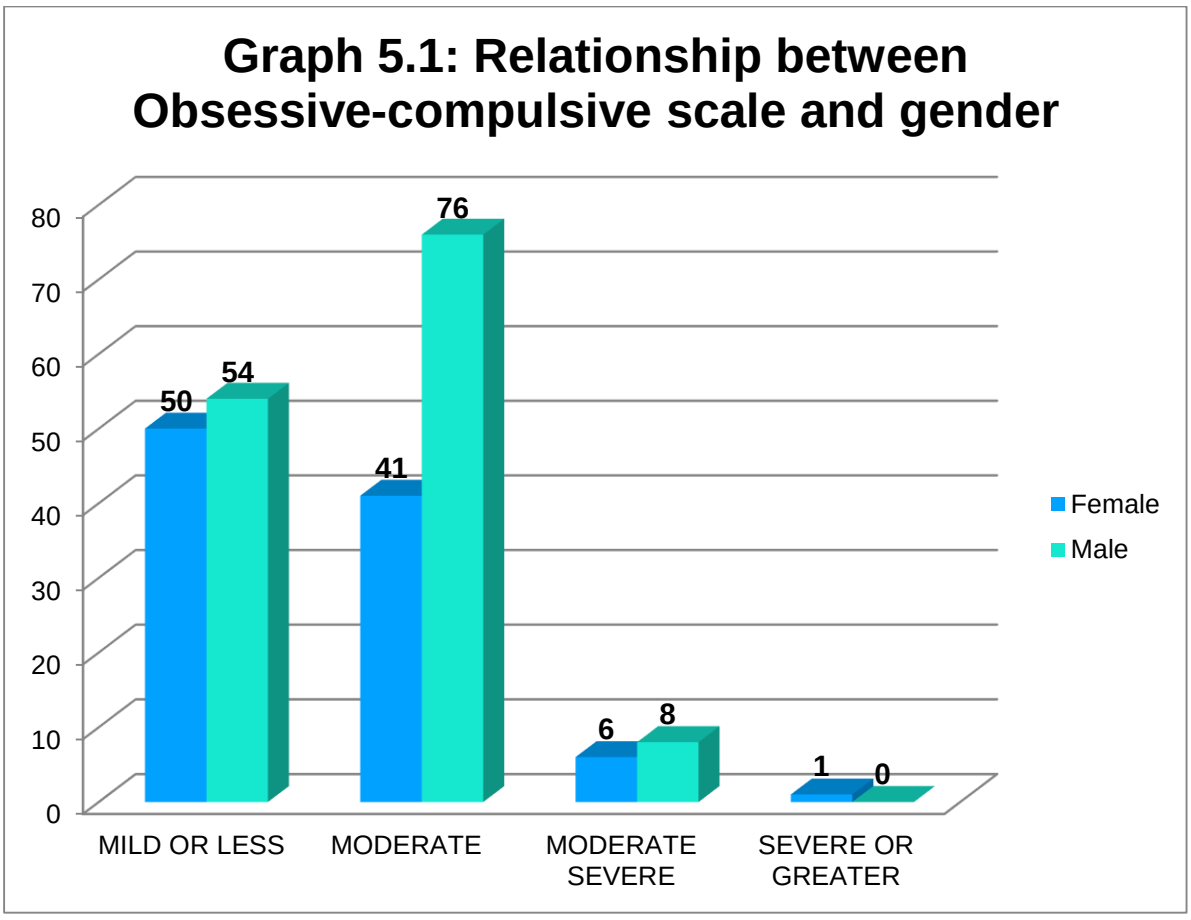


Table 5.2: Relationship between Obsessive-compulsive scale and age among COVID 19 recovered patients N=236

Age	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
≤ 30 years	33 (31.7%)	22 (18.8%)	3 (21.4%)	1 (100.0%)
>30 years	71 (68.3%)	95 (81.2%)	11 (78.6%)	0 (0.0%)

*Chi-square value 8.004 with 3 DF and P=0.046

Table 5.2 shows that relationship between Obsessive-compulsive level and age among COVID 19 recovered patients. There was significant relationship between Obsessive-compulsive level and age with P=0.046. Greater than 30 years age grouped patients had mild to moderate OC symptoms in this study.

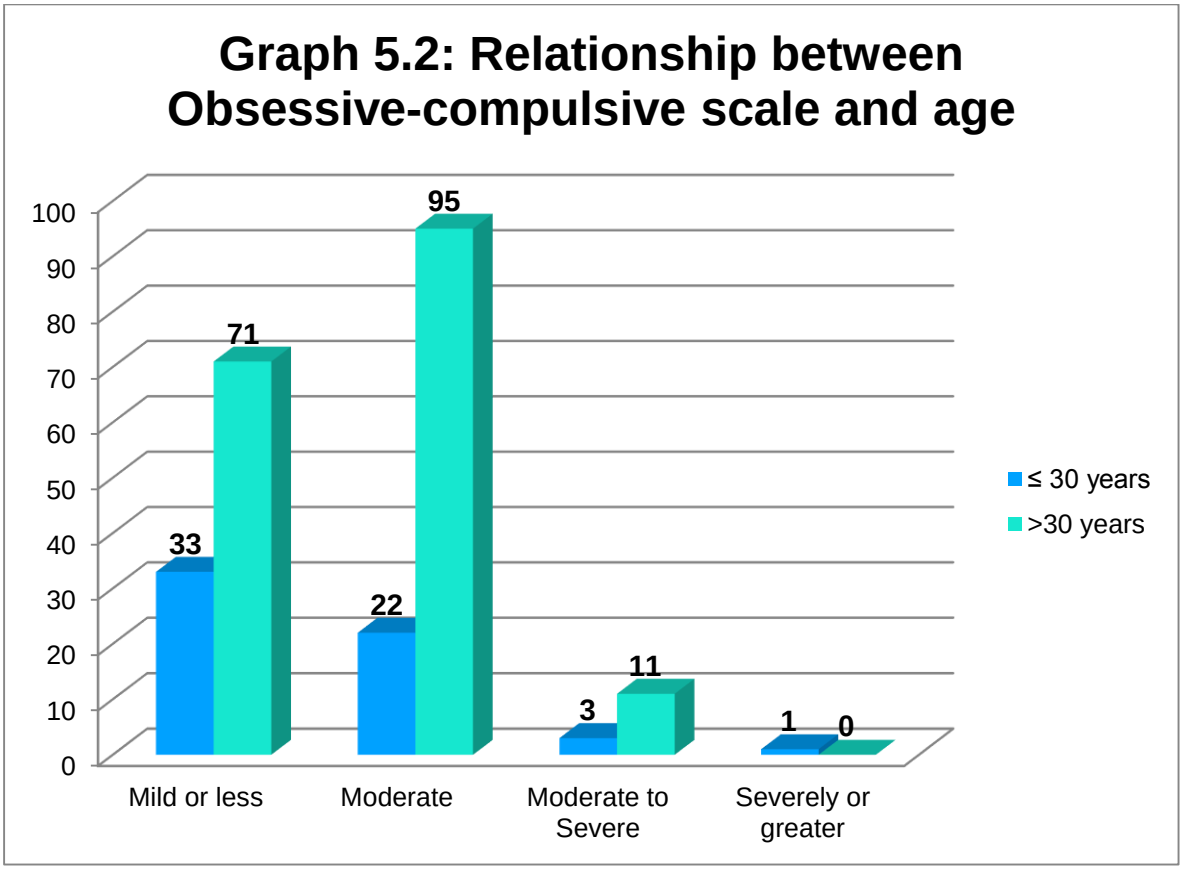


Table 5.3: Relationship between Obsessive-compulsive scale and education among COVID 19 recovered patients N=236

Education	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
Higher secondary	26 (25%)	33 (28.2%)	6 (42.9%)	0 (0.0%)
Graduation	53 (51%)	64 (54.7%)	7 (50%)	1 (100%)
Post graduate	25 (24%)	20 (17.1%)	1 (7.1%)	0 (0.0%)

*Chi-square value 5.055 with 6 DF and P=0.537

Table 5.3 shows that relationship between Obsessive-compulsive level and education among COVID 19 recovered patients. There was no significant relationship between Obsessive-compulsive level and education with P>0.05. Maximum patients had mild or less and moderate obsessive-compulsive level in this study.

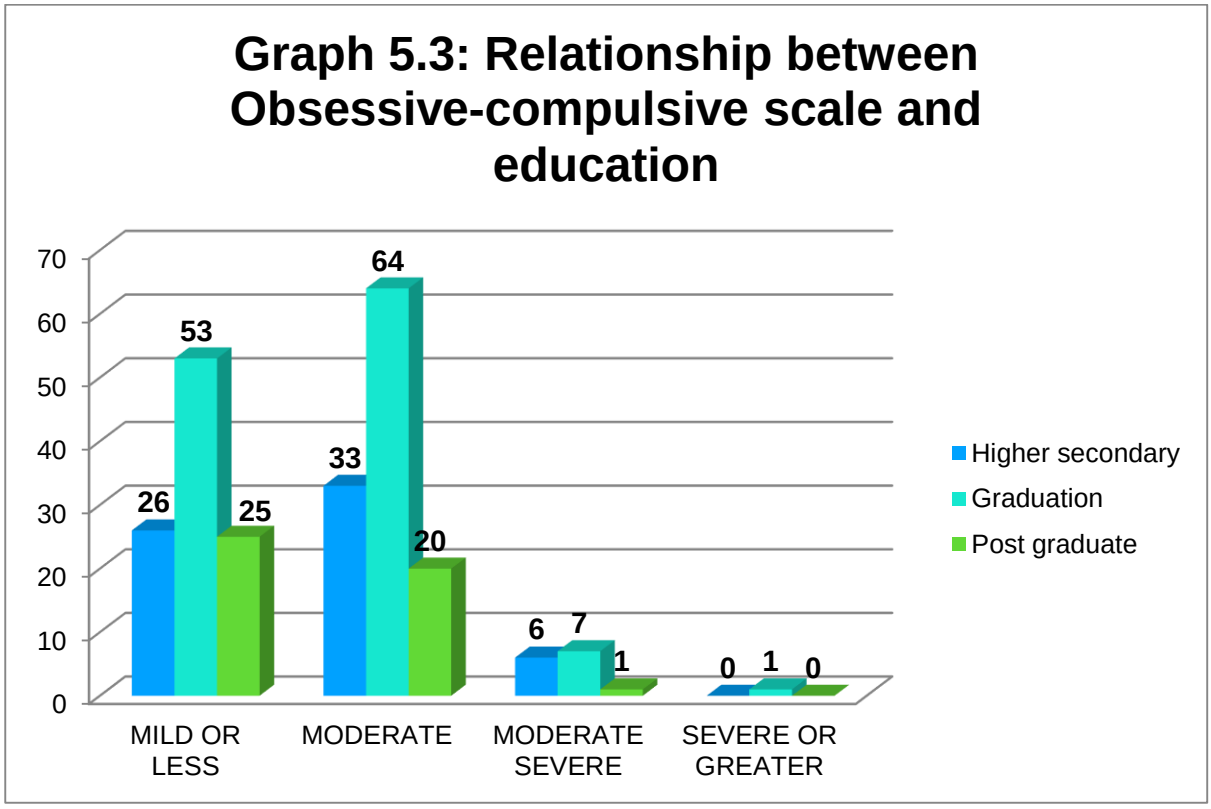


Table 5.4: Relationship between Obsessive-compulsive scale and occupation among COVID 19 recovered patients N=236

Occupation	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
Employed	72 (69.2%)	86 (73.5%)	8 (57.1%)	0 (0.0%)
Unemployed	32 (30.8%)	31 (26.5%)	6 (42.9%)	1 (100%)

*Chi-square value 4.163 with 3 DF and P=0.244

Table 5.4 shows that relationship between Obsessive-compulsive level and occupation among COVID 19 recovered patients. There was no significant relationship between Obsessive-compulsive level and occupation with P>0.05. Maximum employed patients had mild or less and moderate obsessive-compulsive level in this study.

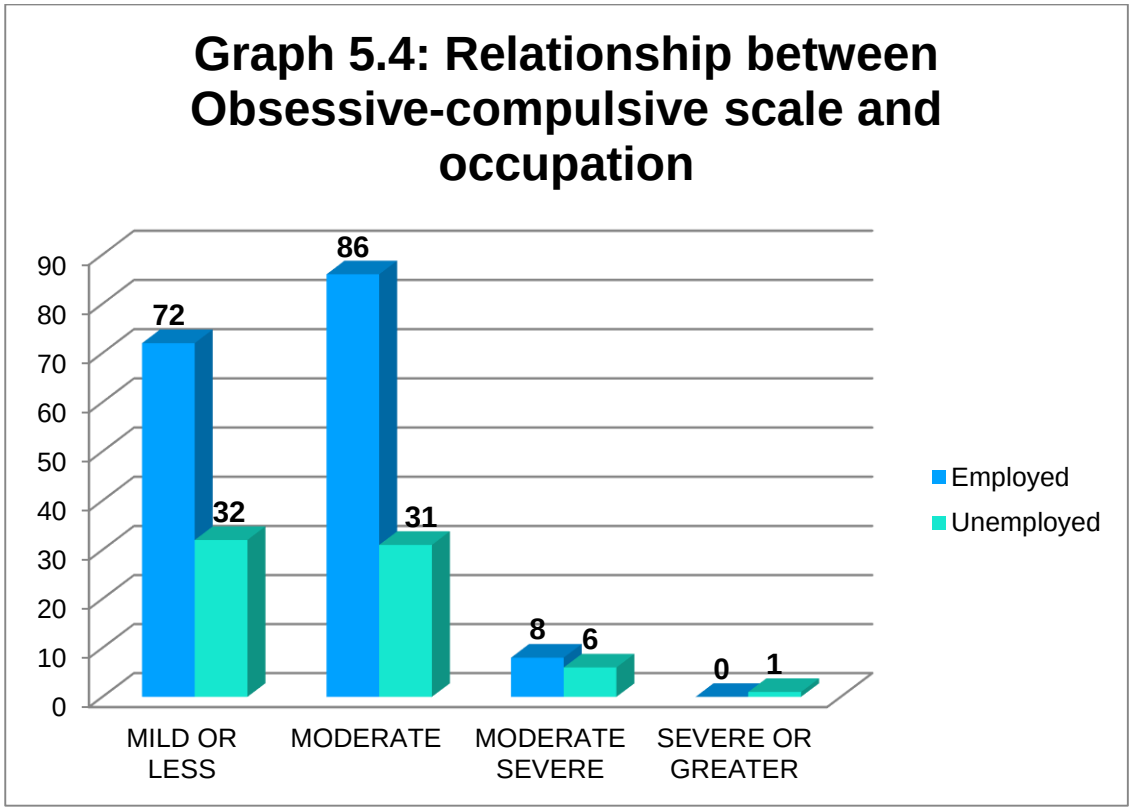


Table 5.5: Relationship between Obsessive-compulsive scale and marital status among COVID 19 recovered patients N=236

Marital status	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
Married	75 (72.1%)	104 (88.9%)	13 (92.9%)	0 (0.0%)
Unmarried	29 (27.9%)	13 (11.1%)	1 (7.1%)	1 (100%)

*Chi-square value 15.816 with 3 DF and P=0.001

Table 5.5 shows that relationship between Obsessive-compulsive level and marital status among COVID 19 recovered patients. There was no significant relationship between Obsessive-compulsive level and marital status with P>0.05. Maximum married patients had mild or less and moderate obsessive-compulsive level in this study.

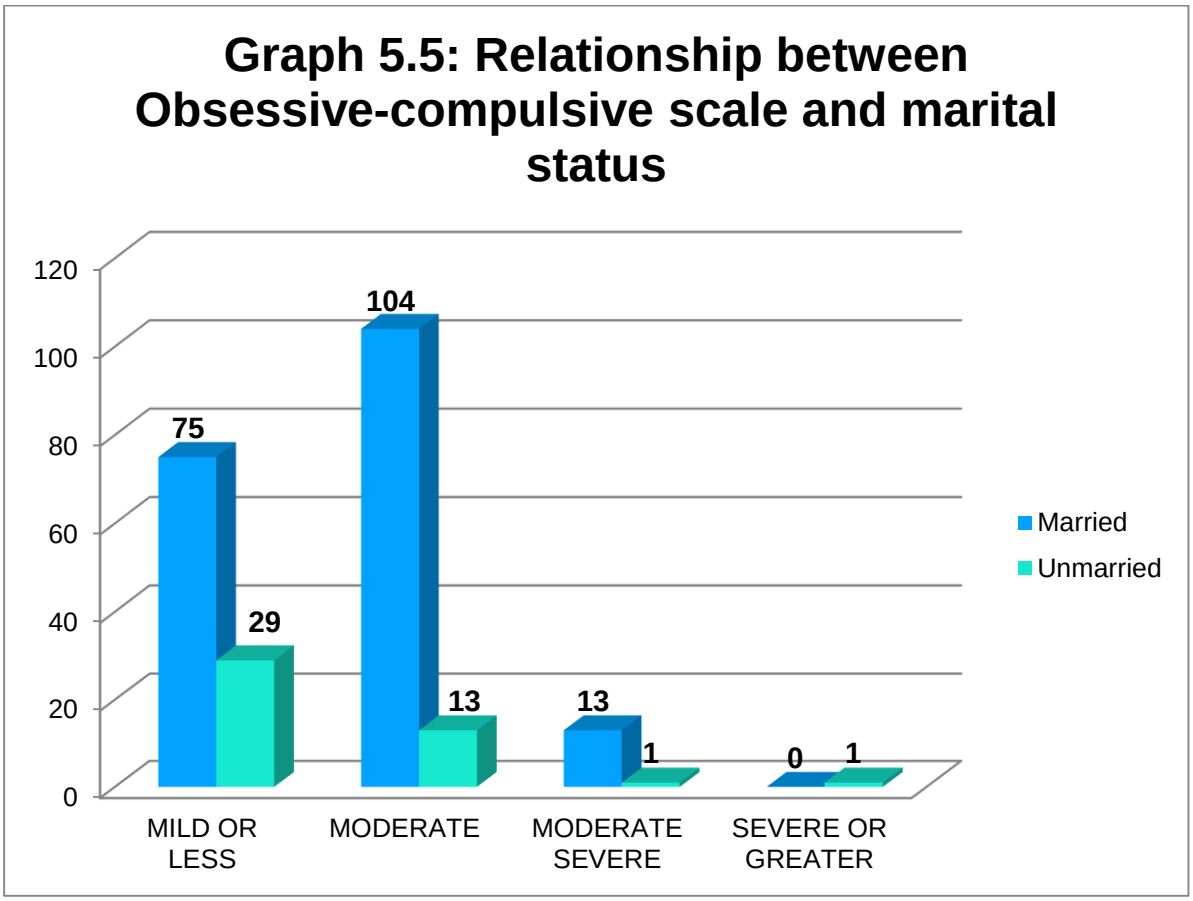


Table 5.6: Relationship between Obsessive-compulsive scale and family type among COVID 19 recovered patients N=236

Family type	Obsessive-compulsive scale			
	Mild or less (n=104) (%)	Moderate (n=117) (%)	Moderate to Severe (n=14) (%)	Severely or greater (n=01) (%)
Joint	36 (34.6%)	32 (27.4%)	3 (21.4%)	0 (0.0%)
Nuclear	68 (65.4%)	85 (72.6%)	11 (78.6%)	1 (100%)

*Chi-square value 2.360 with 3 DF and P=0.501

Table 5.6 shows that relationship between Obsessive-compulsive level and family type among COVID 19 recovered patients. There was no significant relationship between Obsessive-compulsive level and family type with P>0.05. Maximum nuclear family type patients had mild or less and moderate obsessive-compulsive level in this study.

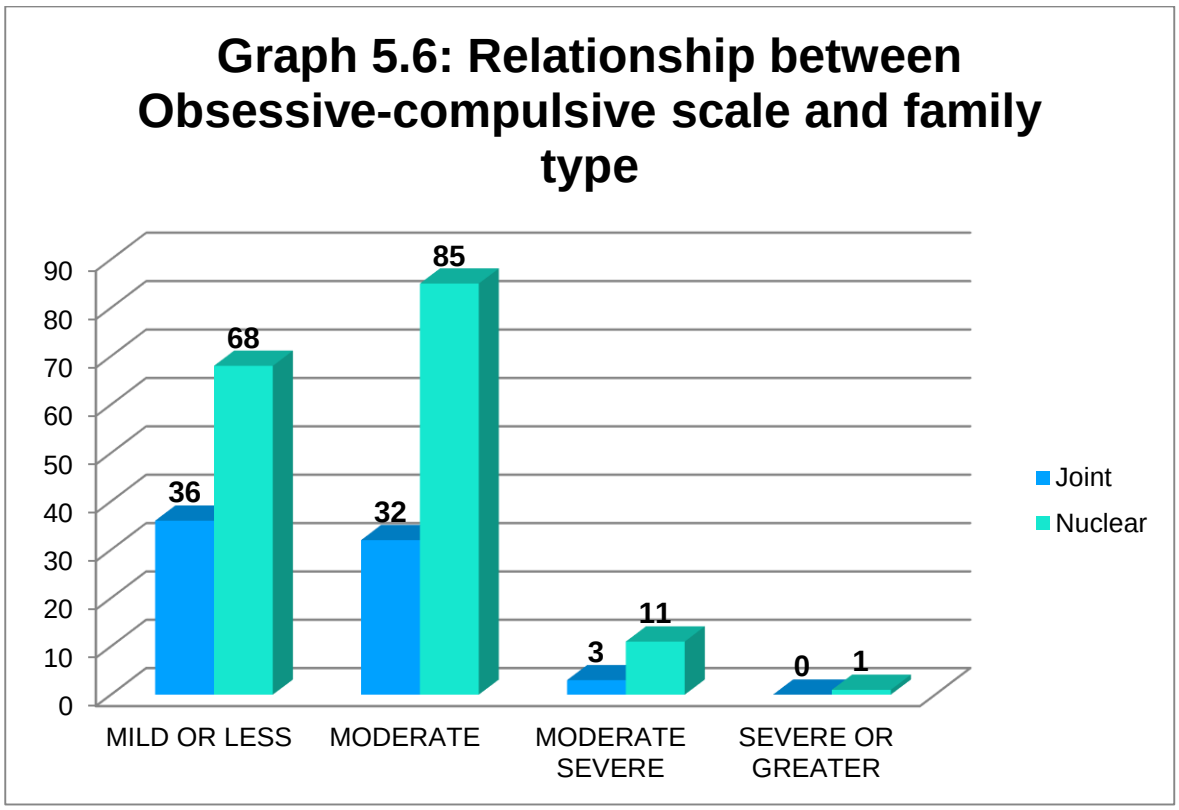


Table 6.1: Relationship between Perceived Stress Scale and gender among COVID 19 recovered patients N=236

Gender	Perceived Stress Scale		
	Low (n=32) (%)	Moderate (n=166) (%)	High (n=38) (%)
Female	19 (59.4%)	67(40.4%)	12 (31.6%)
Male	13 (40.6%)	99 (59.6%)	26 (68.4%)

*Chi-square value 5.840 with 2 DF and P=0.054

Table 6.1 shows that relationship between Perceived Stress level and gender among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and gender with P>0.05. Maximum female and male patients had moderate stress level in this study.

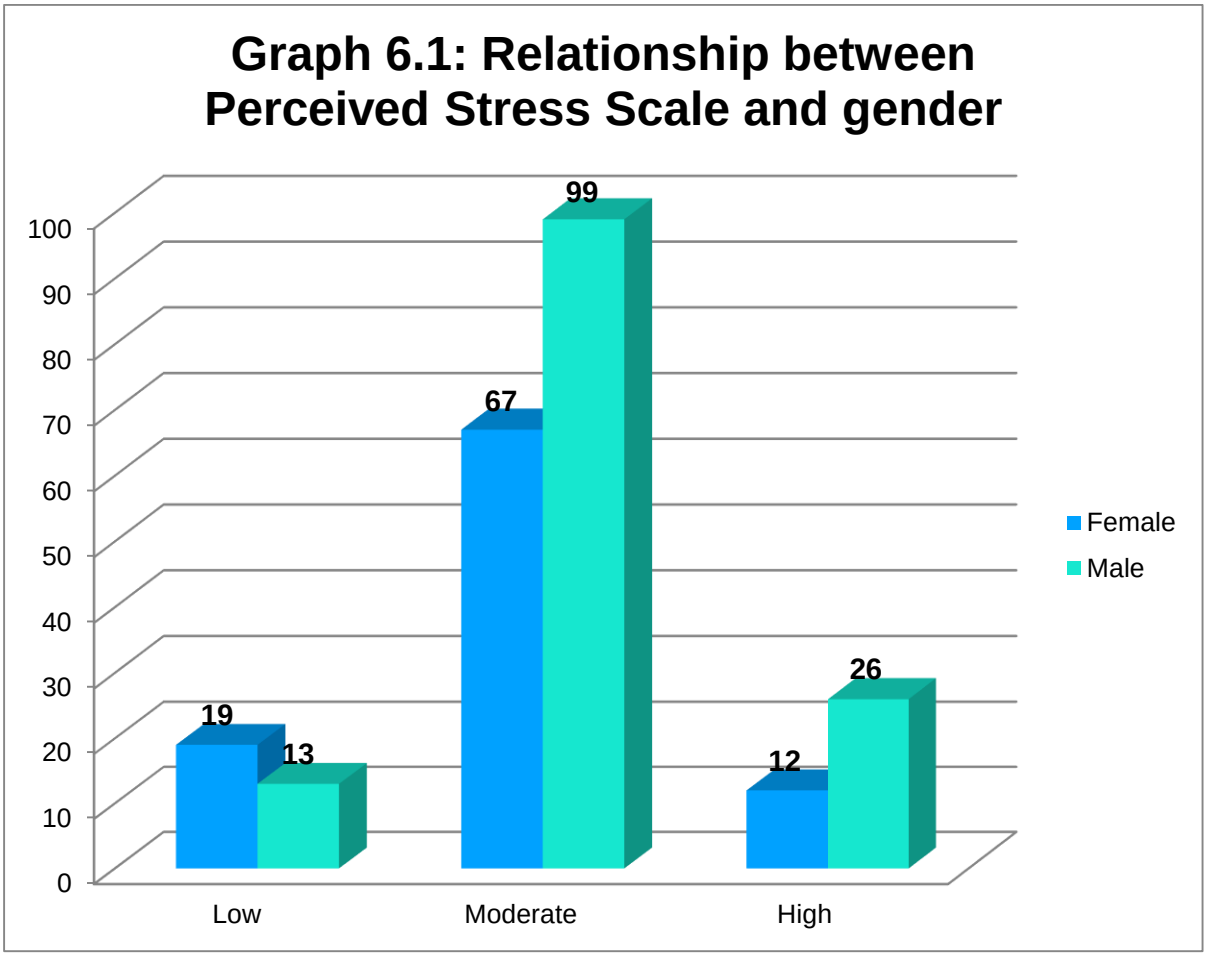


Table 6.2: Relationship between Perceived Stress Scale and age among COVID 19 recovered patients N=236

Age	PERCEIVED STRESS SCALE		
	Low	Moderate	High
≤ 30 years	10 (31.3%)	41 (24.7%)	8 (21.1%)
>30 years	22 (68.8%)	125 (75.3%)	30 (78.9%)

*Chi-square value 0.990 with 2 DF and P=0.609

Table 6.2 shows that relationship between Perceived Stress level and age among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and age with P>0.05. Greater than 30 years age grouped patients had moderate stress level in this study.

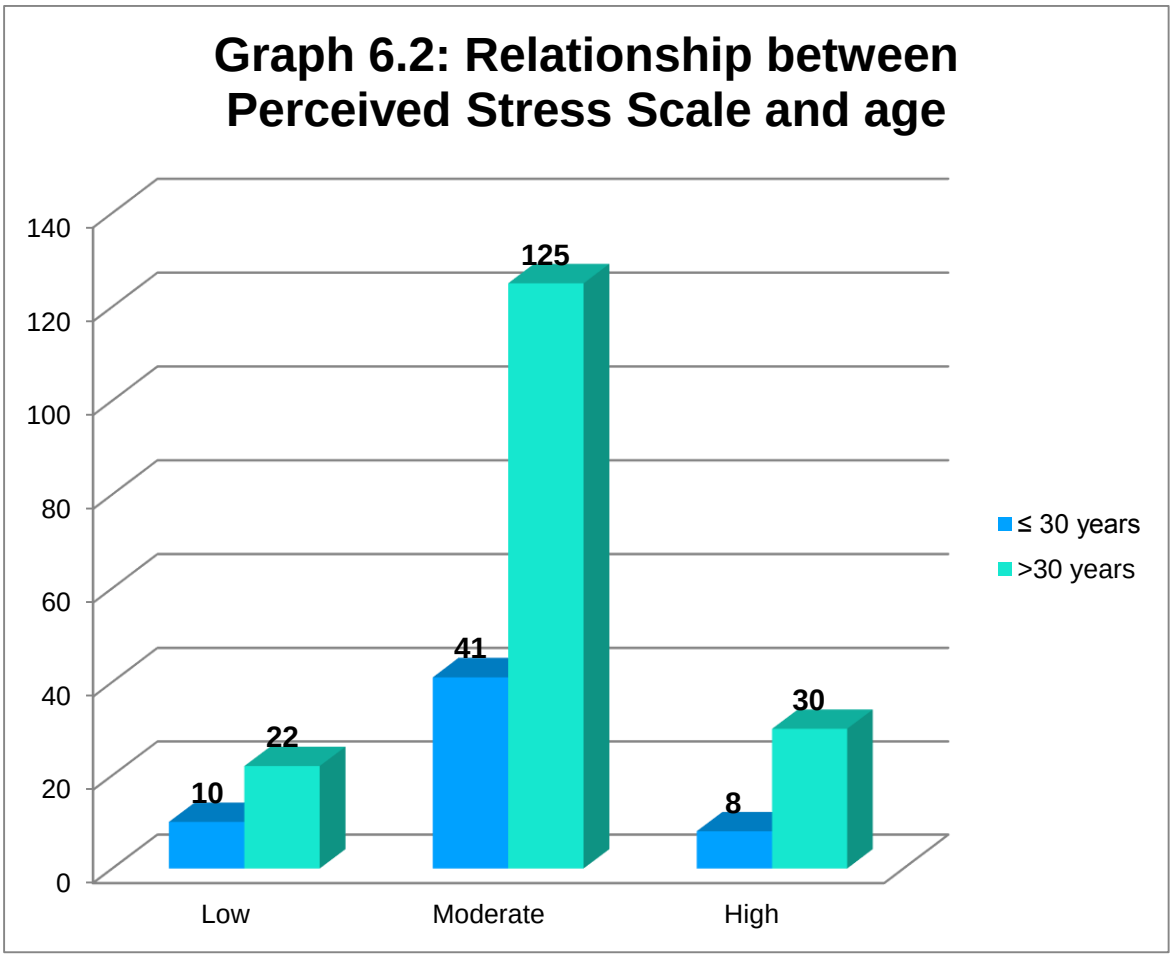


Table 6.3: Relationship between Perceived Stress Scale and education among COVID 19 recovered patients N=236

Education	Perceived Stress Scale		
	Low (n=32) (%)	Moderate (n=166) (%)	High (n=38) (%)
Higher secondary	13 (40.6%)	39 (23.5%)	13 (34.2%)
Graduation	14 (43.8%)	90 (54.2%)	21 (55.3%)
Post graduate	5 (15.6%)	37 (22.3%)	4 (10.5%)

*Chi-square value 6.669 with 4 DF and P=0.154

Table 6.3 shows that relationship between Perceived Stress level and education among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and education with P>0.05. Maximum graduate patients had moderate stress level in this study.

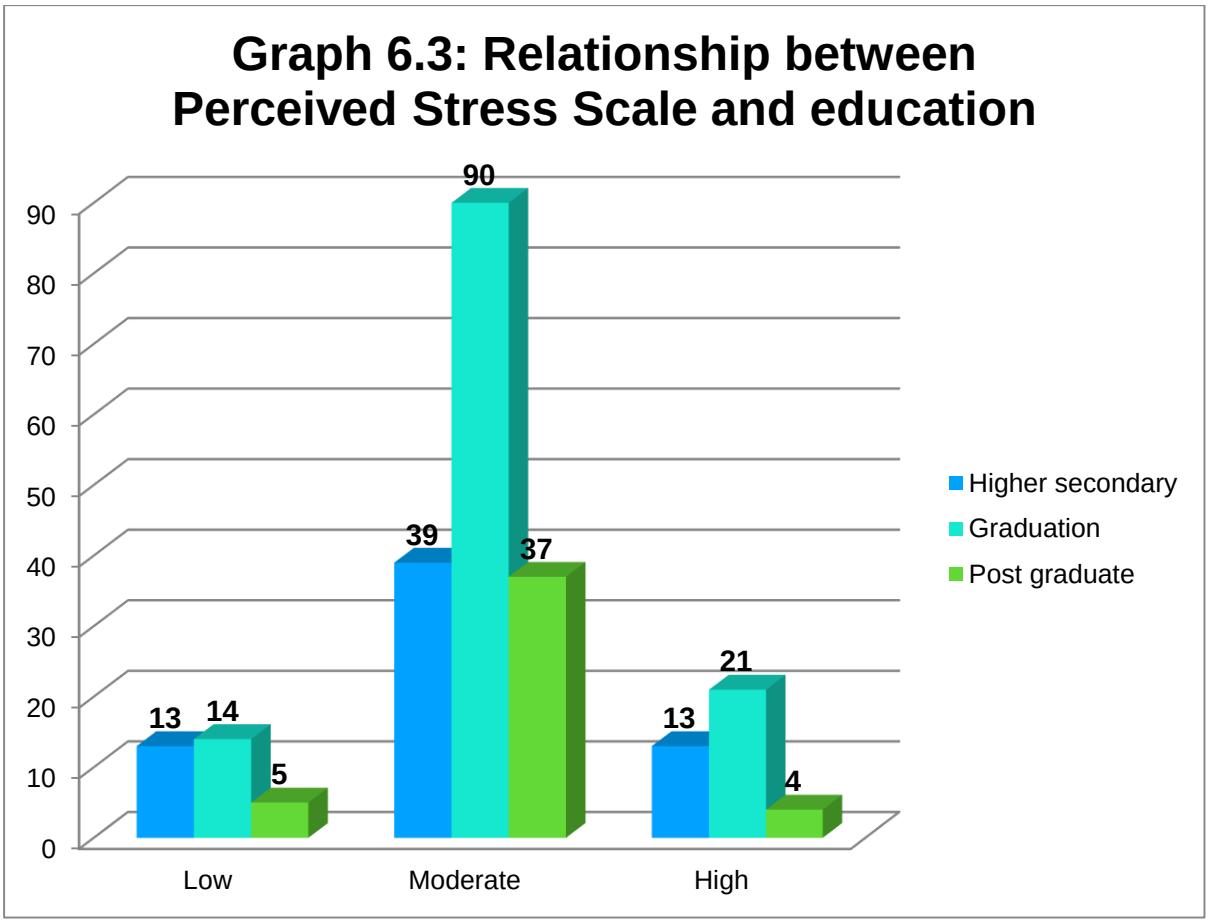


Table 6.4: Relationship between Perceived Stress Scale and occupation among COVID 19 recovered patients N=236

Occupation	Perceived Stress Scale		
	Low (n=32) (%)	Moderate (n=166) (%)	High (n=38) (%)
Employed	22 (68.8%)	114 (68.7%)	30 (78.9%)
Unemployed	10 (31.3%)	52 (31.3%)	8 (21.1%)

*Chi-square value 1.609 with 2 DF and P=0.447

Table 6.4 shows that relationship between Perceived Stress level and occupation among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and occupation with P>0.05. Maximum employed patients had moderate stress level in this study.

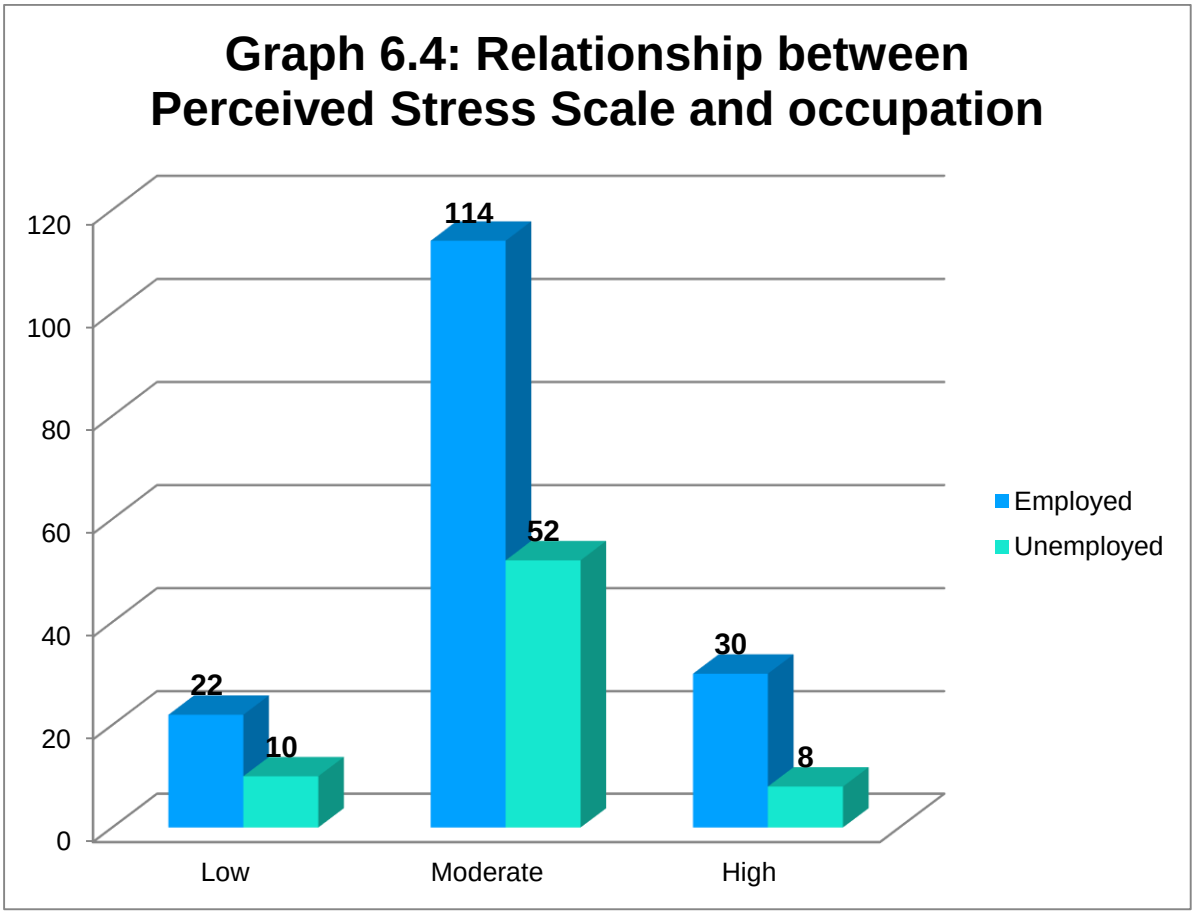


Table 6.5: Relationship between Perceived Stress Scale and marital status among COVID 19 recovered patients

N=236

Marital status	Perceived Stress Scale		
	Low (n=32) (%)	Moderate (n=166) (%)	High (n=38) (%)
Married	24 (75.0%)	134 (80.7%)	34 (89.5%)
Unmarried	8 (25.0%)	32 (19.3%)	4 (10.5%)

*Chi-square value 2.547 with 2 DF and P=0.280

Table 6.5 shows that relationship between Perceived Stress level and marital status among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and marital status with P>0.05. Maximum married patients had moderate stress level in this study.

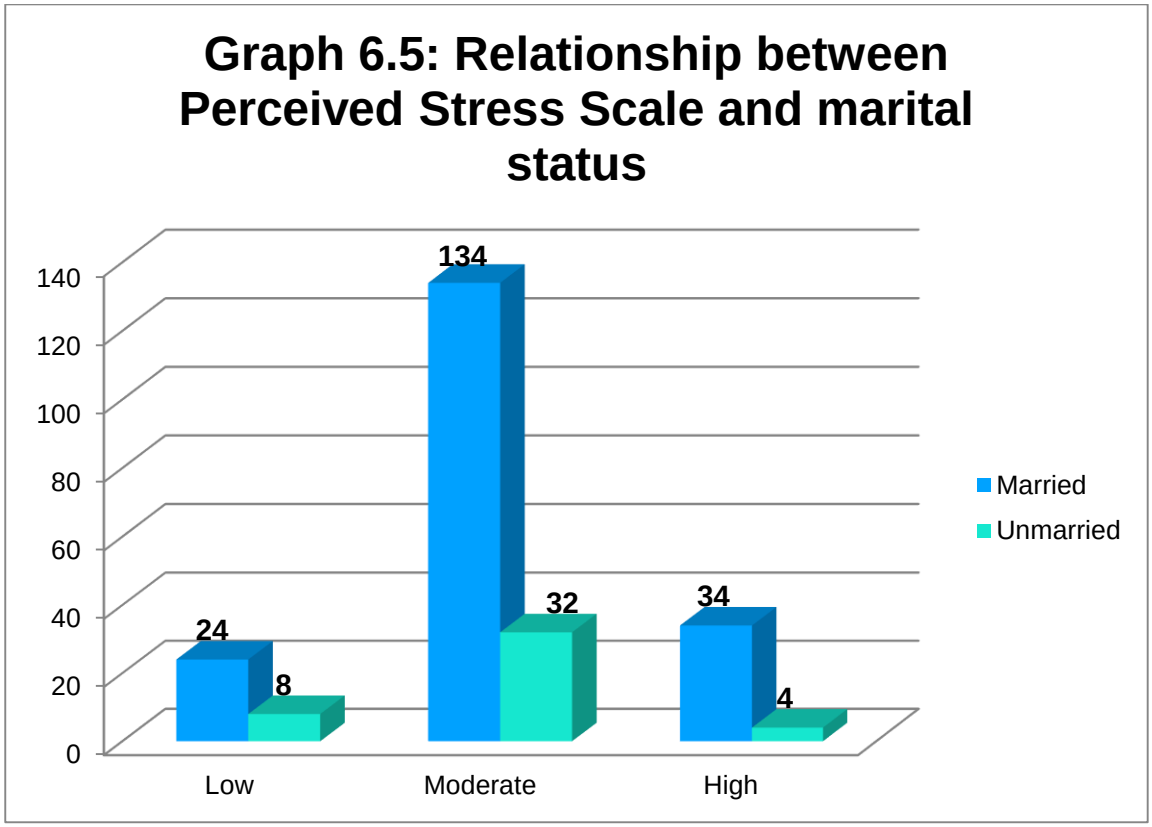


Table 6.6: Relationship between Perceived Stress Scale and family type among COVID 19 recovered patients

N=236

Family type	Perceived Stress Scale		
	Low (n=32) (%)	Moderate (n=166) (%)	High (n=38) (%)
Joint	10 (31.3%)	49 (29.5%)	12 (31.6%)
Nuclear	22 (68.8%)	117 (70.5%)	26 (68.4%)

*Chi-square value 0.086 with 2 DF and P=0.958

Table 6.6 shows that relationship between Perceived Stress level and family type among COVID 19 recovered patients. There was no significant relationship between Perceived Stress level and family type with P>0.05. Maximum nuclear families type patients had moderate stress level in this study.

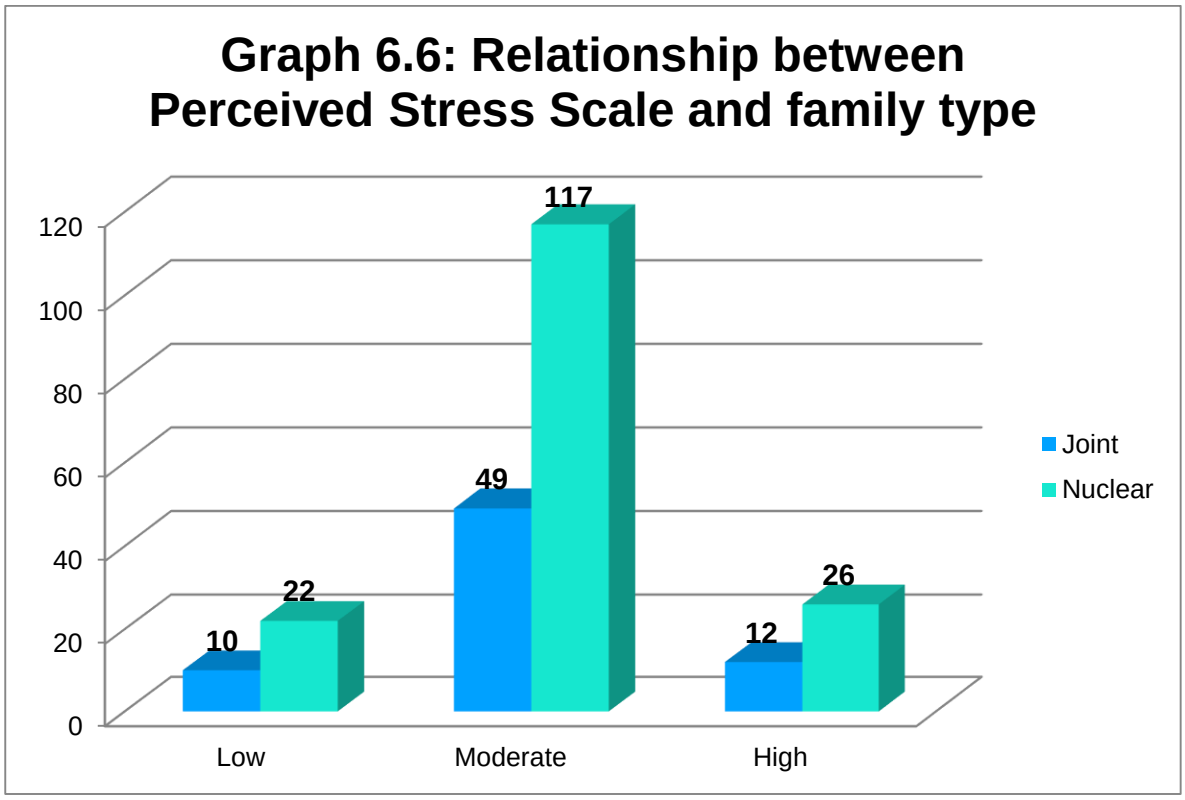


Table 7.1: Relationship between Anxiety Scale and gender among COVID 19 recovered patients

N=236

Gender	ZUNG Anxiety Scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
Female	40 (46.0%)	48 (38.7%)	10 (40.0%)
Male	47 (54.0%)	76 (61.3%)	15 (60.0%)

*Chi-square value 1.139 with 2 DF and P=0.566

Table 7.1 shows that relationship between Anxiety level and gender among COVID 19 recovered patients. There was no significant relationship between Anxiety level and gender with P>0.05. Maximum female and male patients had normal and mild to moderate anxiety level in this study.

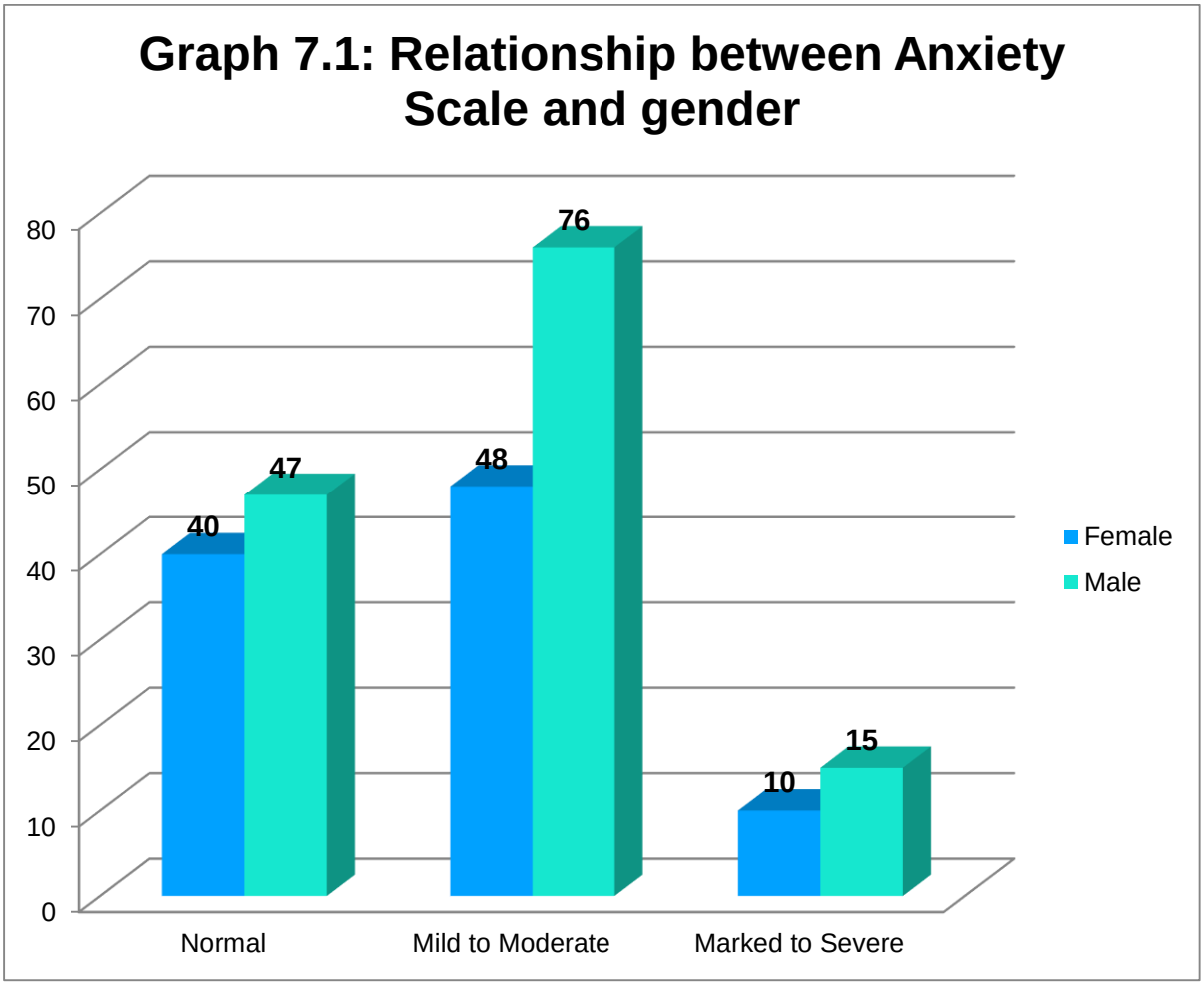


Table 7.2: Relationship between Anxiety Scale and age among COVID 19 recovered patients

N=236

Age	ZUNG anxiety scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
≤ 30 years	24 (27.6%)	30 (24.2%)	5 (20.0%)
>30 years	63 (72.4%)	94 (75.8%)	20 (80.0%)

*Chi-square value 0.687 with 2 DF and P=0.709

Table 7.2 shows that relationship between Anxiety level and age among COVID 19 recovered patients. There was no significant relationship between Anxiety level and age with P>0.05. Greater than 30 years age grouped patients had mild to moderate anxiety level in this study.

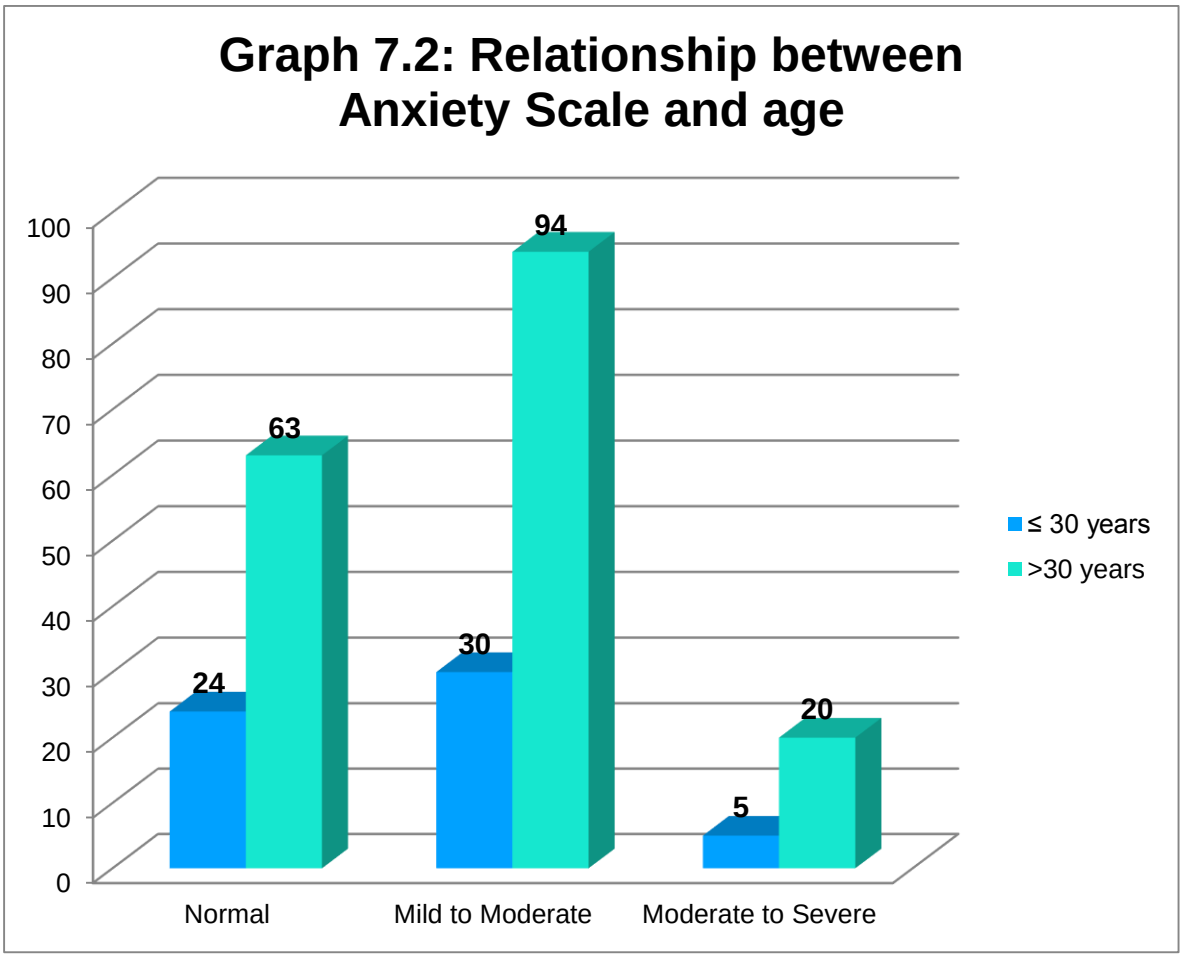


Table 7.3: Relationship between Anxiety Scale and education among COVID 19 recovered patients N=236

Education	ZUNG Anxiety Scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
Higher secondary	21 (24.1%)	38 (30.6%)	6 (24.0%)
Graduation	50 (57.5%)	58 (46.8%)	17 (68.0%)
Post graduate	16 (18.4%)	28 (22.6%)	2 (8.0%)

*Chi-square value 5.566 with 4 DF and P=0.234

Table 7.3 shows that relationship between Anxiety level and education among COVID 19 recovered patients. There was no significant relationship between Anxiety level and education with P>0.05. Maximum graduate patients had normal and mild to moderate anxiety level in this study.

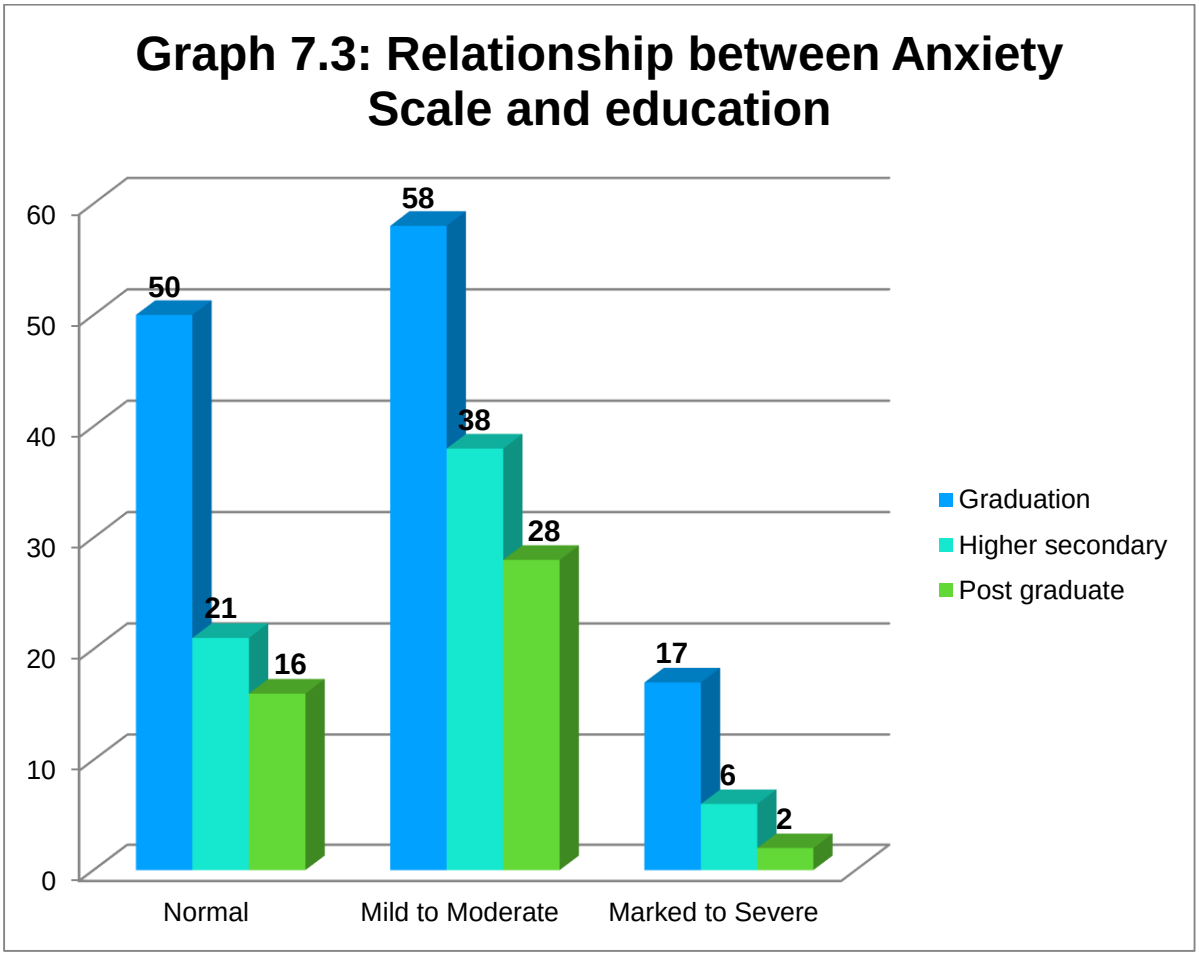


Table 7.4: Relationship between Anxiety Scale and occupation among COVID 19 recovered patients N=236

Occupation	ZUNG Anxiety Scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
Employed	56 (64.4%)	90 (72.6%)	20 (80.0%)
Unemployed	31 (35.6%)	34 (27.4%)	5 (20.0%)

*Chi-square value 2.904 with 2 DF and P=0.234

Table 7.4 shows that relationship between Anxiety level and occupation among COVID 19 recovered patients. There was no significant relationship between Anxiety level and occupation with P>0.05. Maximum employed patients had normal and mild to moderate anxiety level in this study.

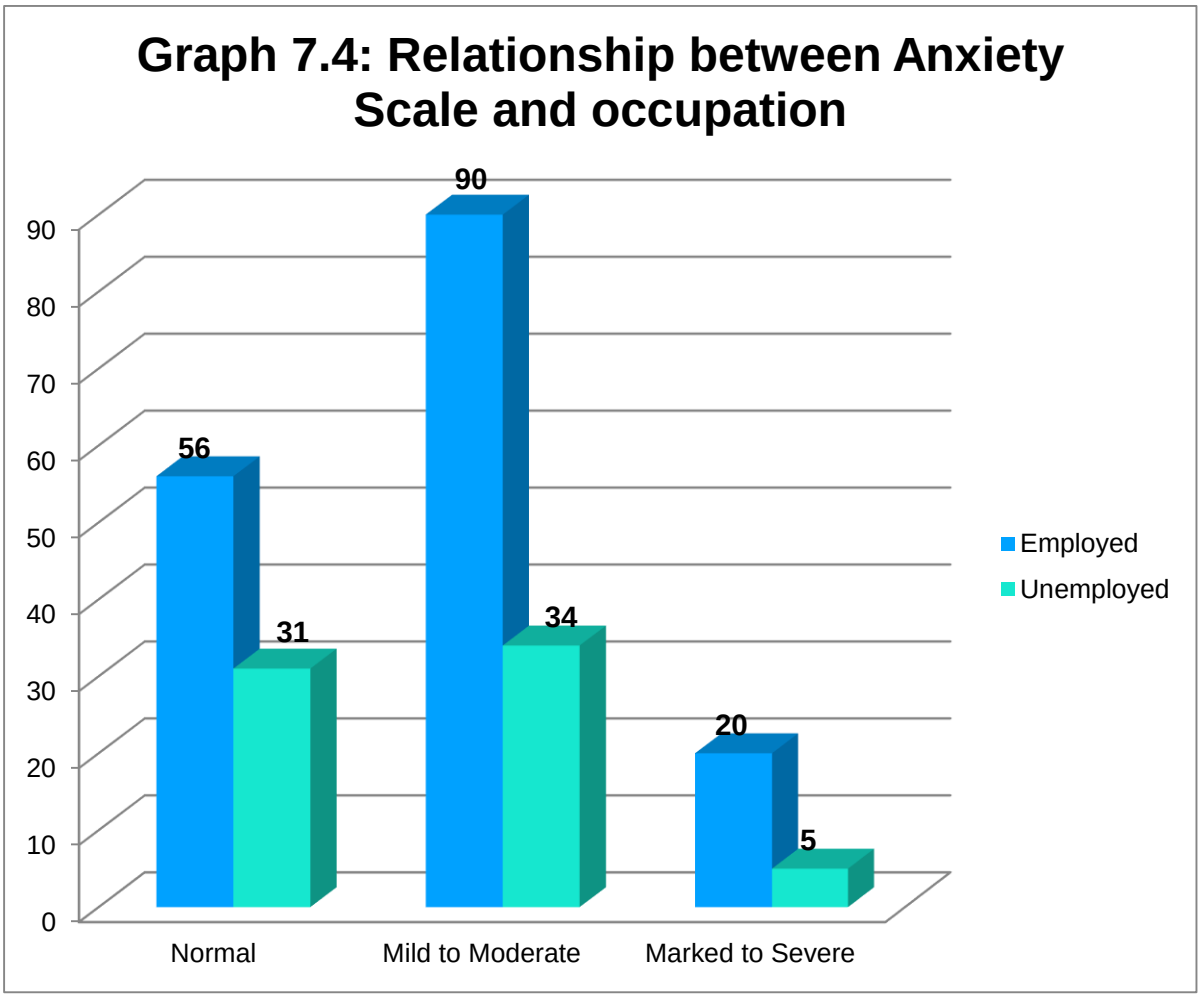


Table 7.5: Relationship between Anxiety Scale and marital status among COVID 19 recovered patients N=236

Marital status	ZUNG Anxiety Scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
Married	65 (74.7%)	103 (83.1%)	24 (96.0%)
Unmarried	22 (25.3%)	21 (16.9%)	1 (4.0%)

*Chi-square value 6.305 with 2 DF and P=0.043

Table 7.5 shows that relationship between Anxiety level and marital status among COVID 19 recovered patients. There was significant relationship between Anxiety level and marital status with P<0.05. Maximum married patients had normal and mild to moderate anxiety level in this study.

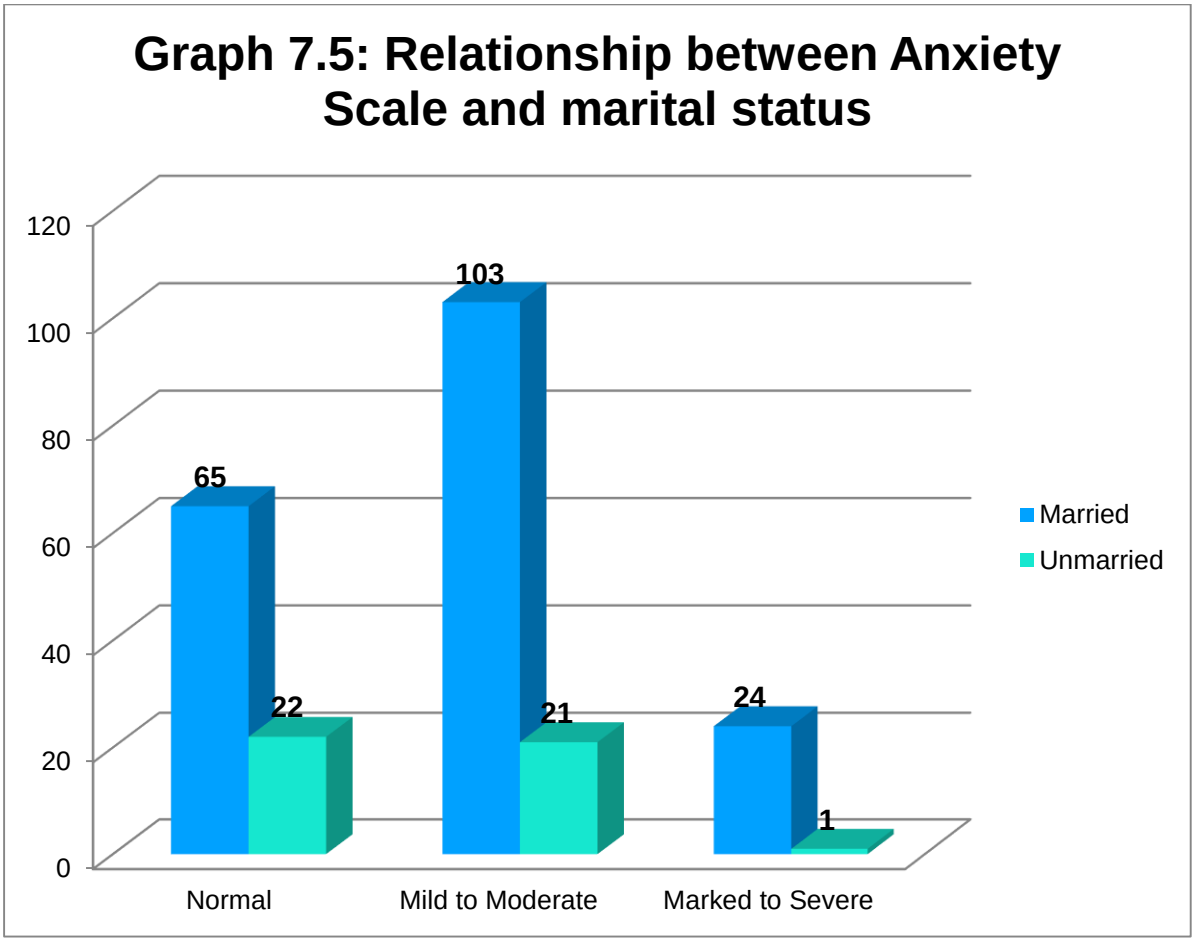
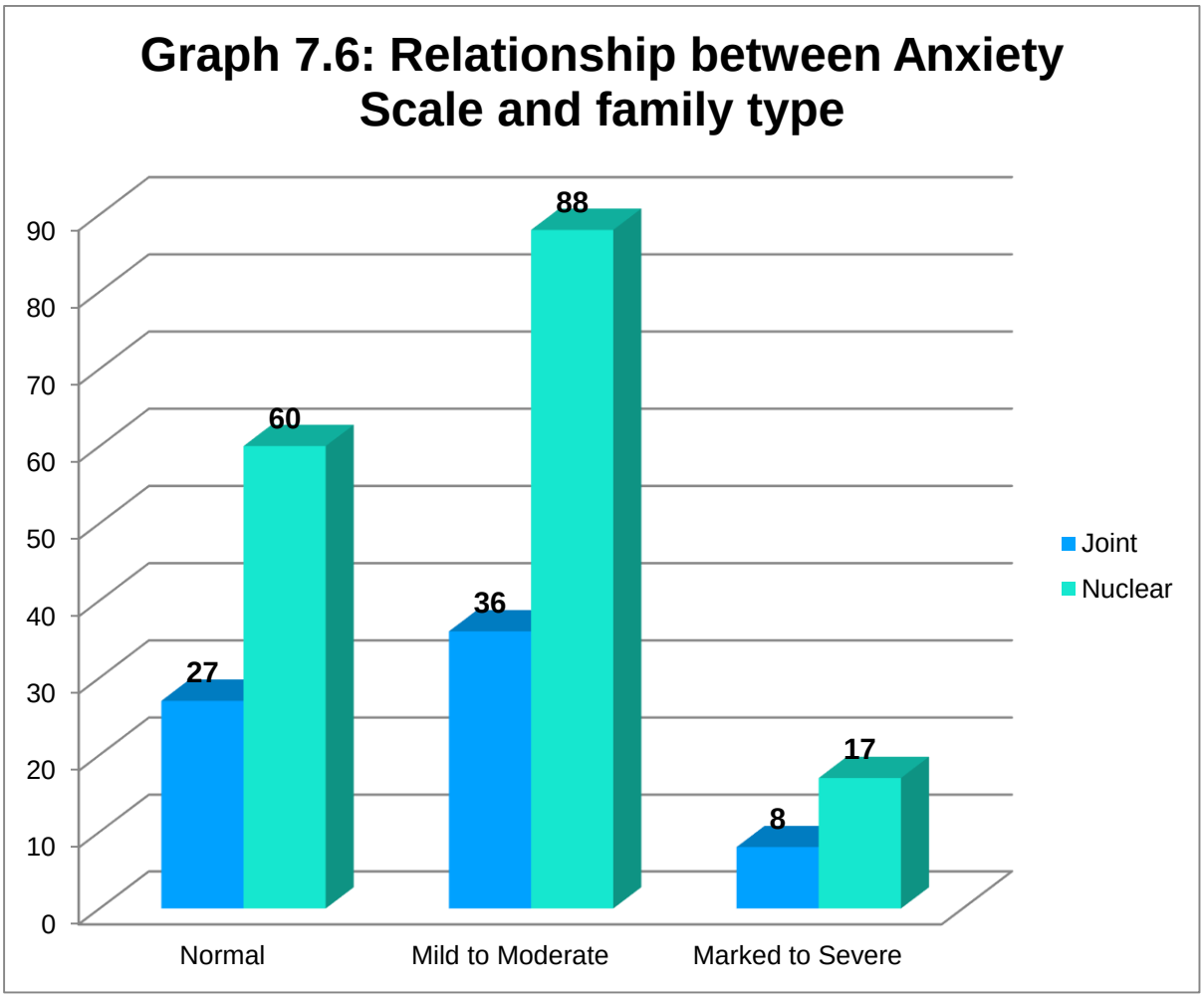


Table 7.6: Relationship between Anxiety Scale and family type among COVID 19 recovered patients N=236

Family type	ZUNG Anxiety Scale		
	Normal (n=87) (%)	Mild to Moderate (n=124) (%)	Marked to Severe (n=25) (%)
Joint	27 (31.0%)	36 (29.0%)	8 (32.0%)
Nuclear	60 (69.0%)	88 (71.0%)	17 (68.0%)

*Chi-square value 0.146 with 2 DF and P=0.930

Table 7.6 shows that relationship between Anxiety level and family type among COVID 19 recovered patients. There was no significant relationship between Anxiety level and family type with P>0.05. Maximum nuclear family patients had normal and mild to moderate anxiety level in this study.



DISCUSSION

DISCUSSION

The study "Psychiatric co-morbidities in patients recovered from covid-19." was conducted in Santosh Medical College and Hospital in Ghaziabad over a period of 1 year. The current study aimed to determine the correlations between COVID-19 infection and psychiatric co-morbidities among admitted patients.

In our study, we took 236 patients (100%) who were infected by COVID virus and were hospitalised. Different patients showed different psychiatric co-morbidities, post hospitalisation. We determined the correlation between COVID hospitalisation and psychopathologies like depression, anxiety, stress and OCD among different age groups, genders, occupations etc. associated with it.

Our study showed that average age of patients hospitalised due to COVID-19 was 45.39 years; and the majority of patients (75%) had belonged to more than equal to 30 years age group and 25% patients belonged to less than 30 years age group in this study. The majority of patients (53%) were graduates; 27.5% patients did higher secondary education and 19.5% patients were post graduates. 70.3% patients were employed and 29.7% patients were unemployed in our study. 32.6% patients consumed cigarette, 25.4% patients did not use any substance, 22.5% patients used others as substance and 19.5% patients used alcohol in our study. The married subjects were 81.4% whereas 18.6% were unmarried, out of which 39.4% patients had fair marriage relationship; 37.3% patients had good marriage relationship and 4.7% patients had poor marriage relationship. 58.5% of our patients had no past history of psychiatric illness and 41.5% patients had a past history of some psychiatric illness in their life in this study, out of these 18.6% patients had family history of psychiatric illness.

Zung's Self-rating Depression Scale (SDS) is an established norm-referenced screening measure which was used to identify the presence of depressive disorders in adults in our study. Our study found that 55.5% of the subjects suffered from some degree of depression post covid. Out of these, 44.9% patients had mild depression; 6.8% patients had moderate depression and 3.8% patients were severely depressed. Similarly, Nishi Suryavanshi, et al (2020) in their study found a similar result of more than 47% of subjects suffering from Depression.[47]

Whereas, in contrast to our study, Mario Gennaro Mazza, et al in Brain, Behaviour, and Immunity 89 (2020) showed lower prevalence of depression (31%) in covid survivors.[48]

Our study found no significant relationship between depression level and gender with P>0.05. Both female and male patients had no or mild depression level in this study. In contrast to this, Jeevan, et al (2022) found in their study that females suffered from Post COVID anxiety more than men. [49]

We, in our study found that post COVID depression (mild) was more common in the age group of 30 and above with P>0.05. Whereas, Salima Meherali, et al (2021) in their study found that depression was more common in adolescents and children than in adults with P<0.05. There was no significant relationship between depression level and education with P>0.05. Maximum graduate education patients had normal and mild depression level in our study. Mild Depression was observed more in Married population than in unmarried population buy there was no significant relationship between depression level and marital status with P>0.05.

Zung's Self Rating Anxiety scale was used to evaluate the level of Anxiety in our patients. Our study found that 10.6 % of the patients had Moderate to Severe Anxiety post Hospitalisation with SD of 9.714. Similar results were seen in a study conducted by Peter G. van der Velden, et al (2021) where they found that only 15.3% of the patients experienced anxiety symptoms post COVID.[50]
In contrast to this, Mario Gennaro Mazza, et al in 2020 found that a significant percentage (42%) of patients suffered from anxiety disorders post covid.[51]

The difference in prevalence of anxiety among age groups was not significant. Out of total 138 males, 47 were normal as per ZUNG anxiety scale, 76 had reported mild to moderate anxiety and 15 of them reported severe anxiety. Out of total 98 females, 40 were normal, 48 had mild to moderate anxiety and 10 reported severe anxiety. Although anxiety was found higher in males, the difference was not found statistically significant. Whereas, Mario GennaroMazza, et al (2020) in their study found that F:M ratio was 2.2:1 for clinical state anxiety ($\chi 2 = 42.15$, $p = <0.001$).

Our study showed no significant relationship between Anxiety level and education with P>0.05. Married patients showed a significant relationship with Anxiety with P<0.05 and we found that more number of married patients were found to have moderate to severe anxiety as compared to unmarried patients. Similar results were seen in a study conducted by Prabhanjan Kumar Vata which concluded that Anxiety levels were found more in Married individuals than in the unmarried by using Zung's Self Rating Anxiety Scale.[52]

Whereas, Katarzyna Adamczyk, et al (2015) in their study found that there was no significant relationship between marital status and anxiety.[53]
No significant relationship between Anxiety level and family type with P>0.05. Also, Anxiety level and education had no significant relation. Graduate patients had mild to moderate levels of anxiety post COVID but it was not that significant.

Our study showed that almost 50% of the patients had moderate to severe OCD as calculated by Y-BOCS scale. Similar findings were seen in a study conducted by Vittoria Zaccari, et al (2021) which showed an increase in severity of OCD symptoms in patients recovered after COVID with ($P<0.001$).[54]

There was a significant relationship between Obsessive-compulsive level and age with P=0.046. Age group of >30 had mild to moderate OC symptoms in our study. In support to this, a study conducted in 2021 by MayaSchwartz-Lifshitz, et al. concluded that the prevalence of OCD after COVID was not significant in children and adults <30 yrs old. Incidence increased in patients >30 yrs of age post covid.[55]

However, Nissen, et al (2020) found in their study that there was an appearance and exacerbation of OCD symptoms in children aged 7-21 during and after COVID-19 which is in contrast to our study.[56]
No significant relationship was found between Obsessive-compulsive level and gender with P>0.05. Patients who were Educated had episodes of mild to moderate OCD buy the results were not significant enough. Employed patients had mild or less and moderate Obsessive-compulsive symptoms in our study. Also, Marital status and Family type had no significant relationship with OCD.

Our study found that average perceived stress scale was 20.51 out of 40. The majority of patients (70.3%) had moderate stress; 16.1% patients had severe stress and the rest 13.6% patients had low stress in this study. Stress played an important role in causing distress in people suffering from, as well as recovered from COVID.
Males were found to have more stress in our study. Out of 138 males, 39% had mild or less stress, 55% had moderate level of stress and the rest 6% had moderate to severe stress but we

found no significant relationship between Perceived Stress level and gender with P >0.05. More stress was found in patients aged >30 yrs old. Out of 177 patients, 22 had mild or less stress, 125 patients had moderate stress and 30 of them suffered from moderate to severe stress as calculated by PSS scale.

It was seen that stress level was more in patients who were unemployed but no significant relationship was found between occupation and Perceived Stress Scale with P >0.05. Our study also found that Moderate to severe stress was found in Married population compared to unmarried ones by using PSS (Perceived stress scale).

Whereas, in a study conducted by Maria Kyprianidou, et al (2021), they found that females were more affected than that males. Their study evaluated that 60% females were affected. They said that there is a perception about females that they have greater stress than males as HPA axis plays a vital role in neuroendocrine stress response, where females are higher responders than males.

But also in their study, we found some similarities. 82% of their significant participants were married and showed that stress level increased in married population as compared to the unmarried patients.

45% of their patients were Employed which was almost similar to our study.[57]

SUMMARY

SUMMARY

This study was conducted in the Department of Psychiatry, Santosh Medical College and Hospital, Ghaziabad, U.P. and was completed in 1 year. This study was done with the aim to find out the correlation between COVID recovered patients and psychiatric co-morbidities associated with them.

This study was conducted in 236 patients who were admitted to the hospital due to COVID 19. Subjects were evaluated by using various scales : Zung's Self rating Depression Scale, The Zung Self Rating Anxiety Scale, Perceived Stress Scale (PSS), The Brief Psychiatric Rating Scale (BPRS). The data collected was tabulated and analysed.

It was observed that the average age of patients hospitalised due to COVID-19 was 45.39 years and majority of them were more than equal to 30 years.

Majority of the patients were educated and employed. Most of them were married and had a fair marriage relationship. Around 42% of our patients had a previous history of psychiatric illness once in their life and out of these, around 19% had a family history of psychiatric illness.

We found that around half of the subjects suffered from some degree of depression and it was slightly more common in the Males. Depression was also found more commonly in the age group of 30 years and above with $P>0.005$.

We also found that mild depression was seen more in married population as compared to the unmarried.

We observed in our study that moderate to severe anxiety was found in 10.6% of the patients post hospitalisation. It was found higher in males as compared to females. Married population had a significant relation with anxiety and it was found that the married people had a higher prevalence of anxiety.

We found in almost 50% of the patients that they were suffering from moderate to severe level of OCD (Obsessive Compulsive Disorder). A significant relationship between Obsessive-compulsive level and age was seen with $P=0.046$. Patients aged >30 years had mild to moderate OCD.

Stress was a very common and a very important parameter in our study. The average stress perceived by the patients was found to be 20.51 out of 40 on the PSS scale in our study. Around 70% of our patients suffered from moderate stress and 16% of them experienced severe form of it. Males were found to have more stress than females and in patients above 30 years of age. We also observed that stress level was more in patients who were unemployed as well as patients who were married.

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ANNEXURES

Proforma for socio demographic data

- Name
- Age:
- Address :
- Education :
- Occupation :
- Sex: male/ female
- Substance use :
- Marital status :
- Marital Relationship :
- No. of Living Children :
- Type of family: nuclear / joint
- Past Medical History
- Past history of psychiatric illness:
- Personal history of psychiatric hospitalisation:
- Family h/o suicide
- Any other substance abuse (eg. Alcohol /tobacco /ganja/ bhang /heroin /opium)

Zung Self-Rating Anxiety Scale (SAS)

For each item below, please place a check mark (✓) in the column which best describes how often you felt or behaved this way during the past several days. Bring the completed form with you to the office for scoring and assessment during your office visit.

Place check mark (✓) in correct column.	A little of the time	Some of the time	Good part of the time	Most of the time
1 I feel more nervous and anxious than usual.				
2 I feel afraid for no reason at all.				
3 I get upset easily or feel panicky.				
4 I feel like I'm falling apart and going to pieces.				
5 I feel that everything is all right and nothing bad will happen.				
6 My arms and legs shake and tremble.				
7 I am bothered by headaches neck and back pain.				
8 I feel weak and get tired easily.				
9 I feel calm and can sit still easily.				
10 I can feel my heart beating fast.				
11 I am bothered by dizzy spells.				
12 I have fainting spells or feel like it.				
13 I can breathe in and out easily.				
14 I get feelings of numbness and tingling in my fingers & toes.				
15 I am bothered by stomach aches or indigestion.				
16 I have to empty my bladder often.				
17 My hands are usually dry and warm.				
18 My face gets hot and blushes.				
19 I fall asleep easily and get a good night's rest.				
20 I have nightmares.				

Source: William W.K. Zung. A rating instrument for anxiety disorders. Psychosomatics. 1971

Zung Self-Rating Depression Scale (SDS)

For each item below, please place a check mark (✓) in the column which best describes how often you felt or behaved this way during the past several days

Place check mark (✓) in correct column.	A little of the time	Some of the time	Good part of the time	Most of the time
1. I feel down-hearted and blue.				
2. Morning is when I feel the best.				
3. I have crying spells or feel like it.				
4. I have trouble sleeping at night.				
5. I eat as much as I used to.				
6. I still enjoy sex.				
7. I notice that I am losing weight.				
8. I have trouble with constipation.				
9. My heart beats faster than usual.				
10. I get tired for no reason.				
11. My mind is as clear as it used to be.				
12. I find it easy to do the things I used to.				
13. I am restless and can't keep still.				
14. I feel hopeful about the future.				
15. I am more irritable than usual.				
16. I find it easy to make decisions.				
17. I feel that I am useful and needed.				
18. My life is pretty full.				
19. I feel that others would be better off if I were dead.				
20. I still enjoy the things I used to do.				

YALE-BROWN OBSESSIVE COMPULSIVE SCALE (Y-BOCS)*

Questions 1 to 5 are about your obsessive thoughts

Obsessions are unwanted ideas, images or impulses that intrude on thinking against your wishes and efforts to resist them. They usually involve themes of harm, risk and danger. Common obsessions are excessive fears of contamination; recurring doubts about danger, extreme concern with order, symmetry, or exactness; fear of losing important things.

Please answer each question by circling the appropriate number.

1. TIME OCCUPIED BY OBSESSIVE THOUGHTS SCORE _____

How much of your time is occupied by obsessive thoughts?

0	=	None
1	=	Less than 1 hr/day or occasional occurrence
2	=	1 to 3 hrs/day or frequent
3	=	Greater than 3 and up to 8 hrs/day or very frequent occurrence
4	=	Greater than 8 hrs/day or nearly constant occurrence

2. INTERFERENCE DUE TO OBSESSIVE THOUGHTS SCORE _____

How much do your obsessive thoughts interfere with your work, school, social, or other important role functioning? Is there anything that you don't do because of them?

0	=	None
1	=	Slight interference with social or other activities, but overall performance not impaired
2	=	Definite interference with social or occupational performance, but still manageable
3	=	Causes substantial impairment in social or occupational performance
4	=	Incapacitating

3. DISTRESS ASSOCIATED WITH OBSESSIVE THOUGHTS SCORE _____

How much distress do your obsessive thoughts cause you?

0	=	None
1	=	Not too disturbing
2	=	Disturbing, but still manageable
3	=	Very disturbing
4	=	Near constant and disabling distress

4. RESISTANCE AGAINST OBSESSIONS SCORE _____

How much of an effort do you make to resist the obsessive thoughts? How often do you try to disregard or turn your attention away from these thoughts as they enter your mind?

0	=	Try to resist all the time
1	=	Try to resist most of the time
2	=	Make some effort to resist
3	=	Yield to all obsessions without attempting to control them, but with some reluctance
4	=	Completely and willingly yield to all obsessions

5. DEGREE OF CONTROL OVER OBSESSIVE THOUGHTS SCORE _____

How much control do you have over your obsessive thoughts? How successful are you in stopping or diverting your obsessive thinking? Can you dismiss them?

0	=	Complete control
1	=	Usually able to stop or divert obsessions with some effort and concentration
2	=	Sometimes able to stop or divert obsessions
3	=	Rarely successful in stopping or dismissing obsessions, can only divert attention with difficulty
4	=	Obsessions are completely involuntary, rarely able to even momentarily alter obsessive thinking.

The next several questions are about your compulsive behaviors.
Compulsions are urges that people have to do something to lessen feelings of anxiety or other discomfort. Often they do repetitive, purposeful, intentional behaviors called rituals. The behavior itself may seem appropriate but it becomes a ritual when done to excess. Washing, checking, repeating, straightening, hoarding and many other behaviors can be rituals. Some rituals are mental. For example, thinking or saying things over and over under your breath.

6. TIME SPENT PERFORMING COMPULSIVE BEHAVIORS SCORE _____

How much time do you spend performing compulsive behaviors? How much longer than most people does it take to complete routine activities because of your rituals? How frequently do you do rituals?

0	=	None
1	=	Less than 1 hr/day or occasional performance of compulsive behaviors
2	=	From 1 to 3 hrs/day, or frequent performance of compulsive behaviors
3	=	More than 3 and up to 8 hrs/day, or very frequent performance of compulsive behaviors
4	=	More than 8 hrs/day, or near constant performance of compulsive behaviors (too numerous to count)

7. INTERFERENCE DUE TO COMPULSIVE BEHAVIORS SCORE _____

How much do your compulsive behaviors interfere with your work, school, social, or other important role functioning? Is there anything that you don't do because of the compulsions?

0	=	None
1	=	Slight interference with social or other activities, but overall performance not impaired
2	=	Definite interference with social or occupational performance, but still manageable
3	=	Causes substantial impairment in social or occupational performance
4	=	Incapacitating

8. DISTRESS ASSOCIATED WITH COMPULSIVE BEHAVIOR SCORE _____

How would you feel if prevented from performing your compulsion(s)? How anxious would you become?

0 = None
1 = Only slightly anxious if compulsions prevented
2 = Anxiety would mount but remain manageable if compulsions prevented
3 = Prominent and very disturbing increase in anxiety if compulsions interrupted
4 = Incapacitating anxiety from any intervention aimed at modifying activity

9. RESISTANCE AGAINST COMPULSIONS SCORE _____

How much of an effort do you make to resist the compulsions?

0 = Always try to resist
1 = Try to resist most of the time
2 = Make some effort to resist
3 = Yield to almost all compulsions without attempting to control them, but with some reluctance
4 = Completely and willingly yield to all compulsions

10. DEGREE OF CONTROL OVER COMPULSIVE BEHAVIOR SCORE _____

How strong is the drive to perform the compulsive behavior? How much control do you have over the compulsions?

0 = Complete control
1 = Pressure to perform the behavior but usually able to exercise voluntary control over it
2 = Strong pressure to perform behavior, can control it only with difficulty
3 = Very strong drive to perform behavior, must be carried to completion, can only delay with difficulty
4 = Drive to perform behavior experienced as completely involuntary and over-powering, rarely able to even momentarily delay activity.

TOTAL SCORE _____

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month**. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.**

Name _____ Date _____

Age _____ Gender (*Circle*): **M F** Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

CONSENT FORM

I _____ have been explained by Dr. Shubh Karman Singh Saini about the nature of study. I volunteer to take part in the study "Psychiatric Morbidities in Patients recovered from COVID-19" and have also explained me the purpose of the study to my satisfaction. I hereby give my consent to be enrolled in the study.

Signature of participant:

Date: